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by Henry J. Kostos

WAR WITH JUPITER
by W. Lawrence Hamling & Mark Reinsberg

RETURN OF THE SPACE HAWK
by Duncan Farnsworth

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Earth Rehabilitators, Consolidated

By HENRY J. KOSTKOS

Our author goes to future ages for this story and depicts the sad condition of the world many years in advance of the present time and tells of the efforts of earthmen to bring it back to its original condition.

Part I

CHAPTER I

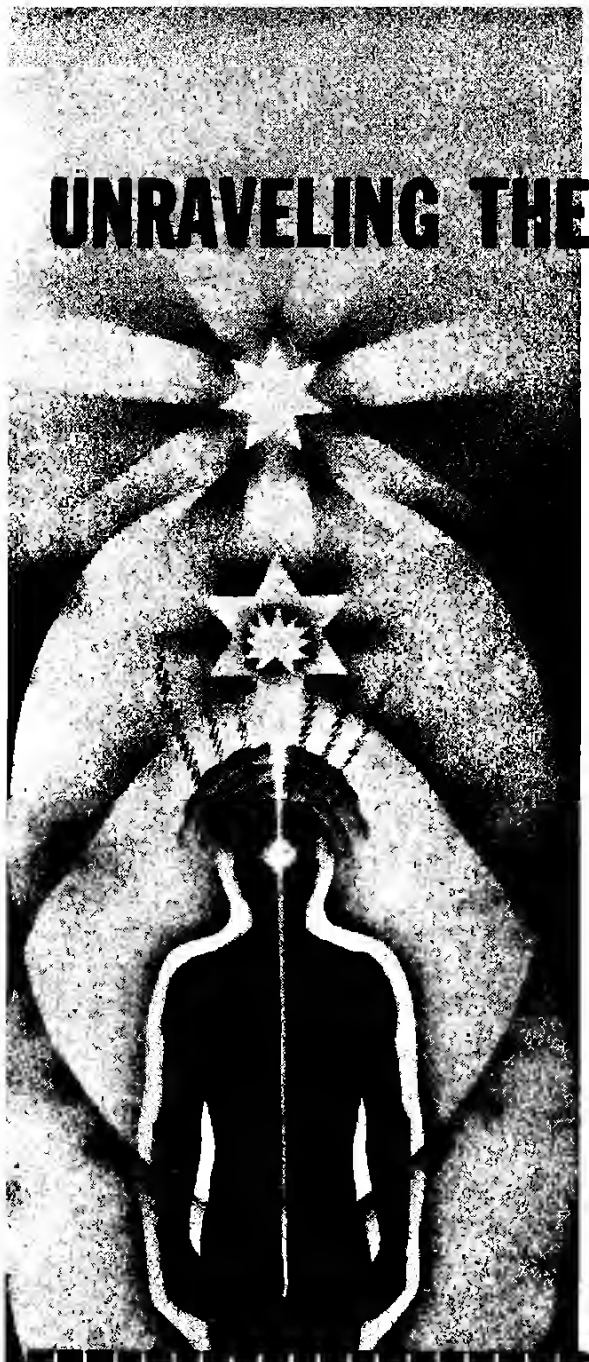
"DAY number 761, sidereal hour 14.67, interstellar period 25,439. This is the Central Communiograph Station located on planet A7-TY in the planetary system of Spica, the alpha star of Virgo. The Consolidated Archeological Research Foundation has a communication of great interest. Please listen."

Warren Bancroft was sitting on the swinging balcony of a building in one of the sky-cities of Saturn. Across from him, lounging gracefully on soft cushions of *tula* down, was Nita the beautiful Saturnian who, he hoped, would some day be his wife. As the communiograph spoke, its blue screen lit up with the image of the announcer. Warren was about to switch the instrument off, for what cares a young man in love for the dull discourses of the learned Body of Five Hundred who ruled the million worlds of interstellar space? Indeed, he felt, there were more important things to talk of under the spell of the four jewels of Saturn* shining brightly in the night sky. But the next words of the speaker froze Warren's hand in its course towards the switch, froze it as his mind riveted itself upon those words that sounded so strange, yet so significant.

"WE have just received a report from Professor Ru Va, excavating under the auspices of the Archeological Foundation, on the extinct planet earth in the system of star R2-KN, otherwise known as sun. As known to all listeners, no trace of former civilization has heretofore been found on earth, despite the allegation of those who claim to be descendants of earth people.

"But now Professor Va communiographs that in the region of 41 latitude north and 75 longtitude west a subterranean disturbance pushed an ancient mountain ridge up through the tremendously heavy sheet of ice that covers the entire surface of the extinct planet. Some

*Saturn has nine moons, all of which are not, of course, visible from any one point on the planet. They range in size from 200 to 3,000 miles in diameter. Their names, from the one nearest to the surface of Saturn to the farthest are: Mimas, Enceladus, Tethys, Dione, Rhea, Titan, Hyperion, Japetus and Phoebe. The nearest moon is 117,000 miles from the mother planet's surface, the farthest, eight million miles.



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strange metallic objects and a plate of what is probably ancient earth-writing have been found, and it is stated that . . ."

Warren turned suddenly towards Nita. For the first time in years his eyes shone with hope and his chin became firm with determination as he exclaimed:

"The very spot where Gordon Bancroft, my illustrious earth ancestor had his research laboratory!"

Warren was excited. He listened intently to the message, his eyes taking in the beauty of Nita, but his thoughts carrying him to the distant planet, from which he was reported to have descended many thousands of years ago. The speaker told of the difficulties under which Professor Ru Va and his gallant group had labored during years of research upon the icy planet, and how they had courageously faced hardships and disappointments until now they reached the culmination of their ambition. But the speaker gave no further details of the actual discovery; the information he had was too meagre, he must wait for further dispatches from the expedition.

FOR many years Warren Bancroft had smarted under the haughty treatment accorded him by the Saturnians. Here on this planet the caste system was very rigidly observed. Particularly despised was that small group of white skinned people who claimed descent from the earth. True, many had intermarried with Saturnians, Plutonians and the peoples from other planets throughout the solar systems, thereby losing their identity and tell-tale appearance. But the pride of the most rugged of these men and women did not permit them to marry outside of their own race, therefore Warren, like a handful of others, was a true-blooded earthman.

THEN for many years, ever since he had read of the Great Discovery in Gordon Bancroft's neatly written notes, the dream of rehabilitating the earth had been an impelling force that would not let him rest. A tremendous, yes almost a hopeless task—how could he and a small band of earthmen, haunted by the fear of persecution, ever achieve such a magnificient ambition? The secret of Gordon Bancroft's Great Discovery had lain buried under thousands of tons of ice on earth, but now Warren's hopes leaped high, for Professor Ru Va was excavating in that very region. Could he, Warren Bancroft, lineal descendant of the famous Gordon, go to earth and find the formula for Super-Atmosphere, that wonderful substance that would convert the baser nature of man? And then could he restore the atmosphere to his native planet and start anew a civilization more magnificient than it had ever enjoyed? It was a noble dream, a seemingly impossible dream, to give back to the descendants of earthmen the planet earth.

AND then too, he could marry Nita without question, whereas now he stood but little chance. She was the daughter of the famous Professor of Astronomical Physics, V-Si. In the present day world scientists were regarded as the aristocracy; they were the rulers of all the planets while merchants were treated no better than slaves, creatures who had to be tolerated because they did the menial tasks which were necessary even in a highly mechanized state of existence. And all earthmen were considered the descendants of a race of merchants, therefore they were looked upon as slaves.

"Oh, I am so glad, Warren," Nita looked at him radiantly, "Now if they only discover Gordon's notes in the ruins of his laboratory you can prove your claim to noble lineage."

"That is true," he reflected slowly, looking off far over the moonlit

landscape, beyond the horizon where a pale dot of light marked his beloved planet earth. Then he turned suddenly to Nita, his eyes gleaming with determination.

"No, it will not do to wait for someone else to find the formula of the Great Discovery. I must go and seek for it myself, and then with that knowledge in my possession, make the earth habitable so that we may be freed from this cursed persecution."

The girl glanced up at him quickly and saw by his tightly compressed lips and the angle of his jaw that he was in deadly earnest.

"If any one can do it, you can, Warren. I have high hopes for your success."

"And then, Nita"

For an answer she snuggled into his arms and looked into his eyes with an expression that required no words to interpret.

THE following morning an earnest group of men huddled around the blue flames of the vapor fire in a cleverly concealed cavern just outside of the Saturnian sky-city of Irru. They were the loyal clan of descendants of earthmen, under the leadership of Ross Griffin, staunch friend of Warren Bancroft. Warren had just finished reading from the diary of Gordon Bancroft. His listeners sat spellbound. With their own eyes they were seeing the last remaining bits of forbidden earth-writing. They admired Warren for his courage in bringing this document here, for even to speak of such things meant death in the horrible Chamber of Purple Vapor.

"It's true, Warren," Ross Griffin interceded, "that Professor Ru Va might discover the secret formula of your ancestor, but the information would probably be misused by our enemies so that it would be of scant benefit to us. To tell the truth life here is discouraging. If we were only given a free hand we could show these people that we are just as capable of developing new scientific wonders as they are themselves."

Warren Bancroft rose to his feet. An eager light crept into his eyes and the yellow pages of the precious diary rustled as his hand trembled with emotion he could not express.

"I was just coming to that point, Ross. For many years we have yearned for the freedom of our native planet. We have planned and schemed with a hope of rehabilitating the earth, a hope that we feared could never be realized. When we attempted to reach the ears of the Body of Five Hundred what happened? We were laughed at, scorned. despised by these Saturnians. True, we have gained many friends among them. but they too were afraid to help us. Always they shook their heads regretfully and said, 'If you could only prove your descent from the nobility of scientists . . .'

"Now we have our opportunity. The expedition of Professor Ru Va may or may not find those valuable documents. We can not afford to take that chance. We must go to earth now, at once, even though it means slaying those who oppose us. Then when we return with the formula and our plans for rehabilitating the earth I am sure that we can gain the help of the Body of Five Hundred."

Warren glanced at his listeners. Their eyes were shining with anticipation, an eagerness to be doing something, anything, that would free them from bondage on this foreign planet. He continued, explaining his proposition fully, stirring their enthusiasm with visions of a new world.

"That is the reason that I asked Ross to call this meeting. We have gathered many times before, but each time

there was some insurmountable obstacle in our way. We can no longer procrastinate.

"I am going to earth to get Gordon's formula to which I am entitled! I am calling upon you fellows for help. Are you with me?"

HIS last words were drowned by a chorus of wild cheering. Every man rushed to Warren to offer his services. These earthmen, long oppressed and scorned by everyone, now saw a ray of hope. The possession of the formula for Super-Atmosphere would give them vast power; they would be masters of a valuable process and could bargain with the rulers of the universe for almost anything they wanted. It was no wonder that the thing gripped their imaginations, no wonder that they volunteered to a man to go on a journey that would be extremely hazardous.

They sat down and began to discuss their plans more rationally. Several knotty problems had to be solved. The most difficult one was the means of obtaining a space ship, as earthmen were not permitted to own property of any kind and were only allowed to travel from one planet to another through the sanction of the Interstellar Police Office. And there was no air line between Saturn and earth, only an occasidonal exploration ship journeyed to that extinct planet.

"Getting a space ship is not an easy task," Warren admitted, "but I have a plan that might work. I'll see you fellows later."

CHAPTER II

HE left the cave cautiously, making sure that there was no Saturnian anywhere in sight, then signalled a passing ball-taxi and instructed the operator to drive him to Nita's dwelling. The giant sphere rolled away at a terrific speed and lifted itself from the ground to hurtle through the air until it was eased down on the landing roof at its destination.

Warren told the tall Martian who stood guard outside of Nita's door that he wanted to see his mistress. The man glared at him, but there was something in Warren's steady blue eyes and his determined bearing that caused the red-faced man to bow stiffly and disappear inside. When he returned he held the door open and motioned the earthman to enter.

The chamber into which he was ushered was high and hung with dark, flexible metal draperies that gave a musical rustle as they swung rhythmically to and fro. The room was illuminated by a faint, greenish phosphorescence from the ceiling. He blinked his eyes in the weird half-light and peered into the gloom. The draperies at the other end of the chamber parted and Nita entered. She looked as beautiful as ever to his hungry eyes, but, as she stretched out her arms to him, he noticed with a feeling of dismay that she had been crying.

"Why, what has happened, Nita? You appear depressed."

"I have just had a talk with father —about my—about our plans. And . . . Oh, Warren," she laid her head against his shoulder and sobbed as if her heart would break, "He does not understand. Although he likes you well enough he is so afraid of denying Gurra."

Then she straightened up and took a firm grip upon herself and stamped her tiny feet, "And I hate that ugly-faced Plutonian."

GURRA, coal black, with a gnarled and malformed body, had risen to power soon after he emigrated from the planet Pluto. He was made Director of

the Hall of Space Research on Saturn, where Nita's father taught. Although the elderly Professor V-Si harbored no love for the ugly faced Gurra, still he dared not oppose him. When the Plutonian began calling at his home, ostensibly to see him, the professor felt honored, but as time went on he discovered that the real lure was his daughter. He was horrified by the thought and tried to make himself believe that the malformed Gurra would not have the heart to ruin the life of a fine girl like Nita who could never learn to love him. But the Plutonian approached him in his laboratory and with a beastly smile told him that he was going to marry Nita and that Professor V-Si should inform her at once. The professor's feeble remonstrance did not avail him of anything. So to-day, just before Warren came to see her, Nita had been given the revolting news.

Warren did his best to soothe her but his heart was heavy. He had hardly the courage to tell her of his latest plans. The one ray of hope he had was to enlist the aid of her father in fitting out an expedition to find the formula. But now this course was impossible. For a moment he felt discouraged, felt that life was futile, but his old confidence soon came back and he vowed to see it through and fight until the bitter end.

BEFORE he could begin the story of what had taken place that morning in the council of the faithful earthmen, the musical rustling of the draperies became harshly discordant as they were rudely torn aside. Something hobbled into the room. They looked but could see no one. Nita, with a low cry of terror turned a knob at her elbow. The green phosphorescent glow was instantly replaced by a brilliant red light.

There, standing against the black draperies, was the blacker form of Gurra! Warren had never met the man before, but he recoiled at the sight of the ugly face, the red bulging eyes and the malformed body of the creature that stood leering at him. Every line on his face seemed to express a harsh, savage manner.

The man spoke, his voice was high pitched and grating. His thick lips moved in a grimace and his short horny arms and talon fingers gesticulated meaninglessly:

"Earth-slave. Out of here! Back to your bargaining and bickering with the other slaves. Do you hear me? I have seen enough of your kind."

Warren's lips were bloodless so tightly compressed were they. He clenched his fists until the nails cut deeply into the palm of his hand.

"Nita, wait outside, please," he implored the terrified girl.

"No, no, Warren, you must not. You can not afford to jeopardize your plans at this time."

"Gurra, you know that I could crush your ugly body. We earthmen have stood enough from your kind. But I have better use for you right now."

And Warren strode over to the creature and before the Plutonian could reach for his tube of purple death-gas he pinioned his arms, although the sharp talons cut cruelly into the flesh of his body. The black lips opened to scream but Warren drove his clenched fist into the man's mouth which effectively silenced all further attempts.

"LISTEN now Nita," Warren's breath came in gasps as his excitement mounted, "this is my chance. Before this monster broke in upon us I tried to tell you all of our plans. Our group, you know whom I mean, met this morning and we decided that it would be absolutely necessary for us to go to earth at once. There is more to the story

which I dare not tell you with this listening," he indicated the cowering Gurra.

"The one big thing that confronts us is the means of getting to the icy planet. When I came here I had all intentions of appealing to your father for help, but now I see that it is impossible. No, I did not mean to offend you, Nita," his voice became soft as he saw the hurt expression in her eyes, "I realize how he feels; he is powerless to help.

"But this creature gave me an idea. I am going to use his space ship! My men are all ready; they are waiting for me at the cave. Come, you," and he shook the black Plutonian, "give me the combination of your hangar lock and tell me where you keep the ship."

"Let me help you, Warren. I can go and inform your men," Nita was quite determined. She had made up her mind to place her future in the hands of this earthman who meant everything to her.

"No, you must not do that. He will only avenge himself on you."

"He might, but he will have to catch me first. Warren, I am going on this journey with you. I am going to earth!"

Warren could not have been more astonished than if she had said that she was about to fly to the distant black star Urma. Then he thrilled with secret adoration. He was proud to know that she thought so much of him that she would undergo the untold dangers and hardships of such a journey. But he shook his head sadly and reluctantly.

"I'm afraid that it can't be done, Nita. Nothing would please me more under different circumstances, but now. . . ."

"Please don't argue with me," she stamped her little foot determinedly, "I *am* going! Would you leave me behind with that?"

SHE pointed to Gurra who was staring at them evilly, his mouth wide open as his mind slowly grasped the significance of the drama that was taking place. Then he flushed with anger and waved his short, horny arms at Nita.

"You can't go, you can't go," he half pleaded, half bullied in a croaking voice.

Warren drew back his clenched fist and the man cowered to the floor and said no more.

"Warren, we have no time to lose. Tell me where to go and I will have your friends prepare to leave Saturn immediately. I know where Gurra keeps his ship and he has told me the combination. Father and I have gone on several short trips with him and he has even shown me how to handle the controls."

The descendant of earthmen thought seriously about the new angle of the situation. Then the furrows on his brow smoothed out and he smiled happily at the courageous girl.

"I hardly dared to expect this, Nita, but, now that you are firmly determined to go with us, I must confess that I am overjoyed. There are many dangers but I'm afraid that there would be many more if you remained behind," and he looked significantly at Gurra.

He pushed the black man into a corner from which he could not escape and drew Nita out of earshot. Here in a low voice he rapidly sketched his entire plan and gave her explicit directions for finding the earthmen.

"HAVE Ross Griffin direct the men. You might ask him to send Palmer to me at once at the hangar so that we may prepare the space ship. But befor you go, hadn't you better pack your personal belongings—we are not coming back here. I'll be waiting for you

at the hangar." A sudden idea came to her.

"What are you planning to do with that?" she indicated in the direction of the Plutonian.

"There are several things I would like to do with him, but for the time being I'll just put him to sleep right where he is. No, it will not be anything serious," he assured her when he saw the questioning look on the girl's face, "he will wake up, after we are gone, without being much worse off for his long sleep."

Immediately after Nita had finished her packing and had left the building, Warren removed a small metallic tube from a pocket in his garment and pointed it at the terrified Gurra. The creature's red eyes bulged with fear, but before he could open his lips to squeal the bluish vapor reached his dilated nostrils and his head fell back upon the hard floor. He lay there unconscious with mouth wide open, black fangs protruding in an ugly Satanic grin.

Warren wasted no time. He picked up Nita's belongings and hurried in the direction of the hangar. He was cautious to avoid the terrible Vigilantes whose deadly fire-spears had snuffed out the life of more than one poor earthman for very little or no reason.

CHAPTER III

FORTUNATELY Gurra's space ship was housed in a secluded part of the sky-city and he reached it without arousing any suspicion. Remembering the combination Nita had given him, he pushed a series of tiny buttons, whereupon the entire cover panel of the hanger slid open noiselessly at his feet, revealing below the shining metallic vehicle that was to carry the little band of earthmen and one loyal and lovely Saturnian girl to the cold regions of an extinct planet.

Warren stepped down and began a hasty inspection of the flyer. Nita had told him that it was propelled by a new gas mixture that had a nozzle velocity many times in excess of the vapors used in the motors of the old style ships. The rocket tubes appeared to be sound; they showed but little pitting and would be good for many long flights before they needed replacing. As he was about to step inside of the space ship he heard the sound of voices above him, and looking up he saw Nita, accompanied by Ross Griffin and X. Palmer. Both men were carrying with some difficulty several heavy parcels and metal tanks.

"That's fast work, Warren," Ross called down to his friend cheerfully, "getting a ship on such short notice. Before Nita rounded us up I'll confess that I was a bit skeptical about having the good fortune to be able to rocket off to the earth. Palmer and I picked up these tanks of liquid gas in case Gurra's ship was short of fuel. And God knows where we will have to go before we are through with this journey."

"Where are the other fellows?" Warren asked after they had entered the ship and X. Palmer was beginning methodically to test the propelling and control apparatus.

"THEY are coming one by one to allay suspicion. There's Vic Sylvan now," Ross replied as a blond-haired young giant stepped quietly through the airlock to greet them.

The remaining members of Warren Bancroft's crew of earthmen appeared shortly after, coming in one by one, all of them carrying provisions and supplies that had been stored for just such an eventuality. Their eyes which were once dull and glazed now lit up with the sparkle and anticipation of adventure.

Counting Nita and Warren there were eleven people in the crew and on the

passenger list of the "Earthbound," as the Plutonian's ship had been renamed by its new masters—eleven people united by the common bond of earth ancestry and for the common purpose of establishing for themselves and for their families the privileges and esteem which they believed should rightfully be theirs.

Warren and his crew wasted no time on idle sentimentalism. There was work to be done. Delay might prove fatal to their plans. At any moment Gurra or the Vigilantes might pounce upon them, and not only would their plans be balked, but they would all most certainly be subject to the tortures of the horrible Purble Vapor, and if unlucky enough to have remained alive, be exiled to a living hell on Saturn's farthest satellite, Phoebe.

Nita donned a mechanic's garment and accompanied Palmer about the control and power rooms, checking the motors, the tubes, the instruments, the controls, and in fact every vital part of the "Earthbound." She had inherited much of the scientific and mechanical talent from her father, for more than once Palmer conceded some mooted point to her and cheerfully followed her suggestions. Warren in the meantime was studying the celestial charts and plotting their angle of projection.

IN order to take off with the assurance that they would be headed towards the earth it was necessary to estimate the proper elevation of the ship's nose as well as its lateral direction. Otherwise much valuable fuel would be expended energizing the steering rockets. The ship rested upon an adjustable cradle which could be rotated and elevated as required to point the ship toward any spot in the heavens. Verniers with micrometer graduations enabled the navigator to place the vessel in its proper position before the take-off. This universal adjustment was similar to the polar and declination axes of a telescope mounting which permits the instrument to be directed to any point in the sky.

WARREN was just completing the final adjustments on the quadrant when he saw the interior of the hangar suddenly enveloped in darkness. He looked up in alarm. The roof of the hangar was closing! Then he heard the shrill voices of Saturians and louder than any others, and more grating, came the voice of Gurra! Warren having heard it once could not mistake it. They were trapped. The crafty Plutonian had awakened from his stupor prematurely and had called out the Vigilantes.

"It would have been better if I had finished him completely," Warren thought bitterly as he gave a final twist to the turntable control before dashing for the open door of the air lock. The door was fifty feet away, an easy sprint would bring him there in a few seconds, but those seconds may as well have been hours, for the lower entrance to the hangar between himself and the ship was now alive with rushing Vigilantes. Before he could retreat they were upon him. Fortunately the entrance was too narrow to permit more than a limited number of them through and Warren, in desperation, struck about him with the long heavy sighting tube he had been using in adjusting the cradle.

The skull of the first Saturnian who reached him was crushed; the second Vigilante drew back with a cry of pain as his long arm dangled broken and useless. The others, seeing that here was no easy conquest, circled around him cautiously, waiting for an opening.

The tumult of the attack had attracted the attention of the men on

board of the "Earthbound." When Ross Griffin heard it he took one look through the observation window and shouted to the crew. Vic Sylvan's blond head was the first to emerge from the ship. There was a long gleaming metal rod in his hand, as big around as his massive arm; his eyes shone with the fierce light of battle. With a roar he was upon the astonished Vigilantes and before they could recover from their surprise, three of them were lying lifeless upon the smooth, metal floor of the hangar.

"WE'RE right here with you, Mr. Bancroft, and by God we're sticking . . . and fighting . while there's a kick in us."

The descendant from ancient Vikings paused in his speech every time he rendered another Vigilante *hors de combat.*

By now the little band of Earthmen had joined their two comrades and it was a matter of just a few moments and some lusty blows before those Saturnians, who were able to run, took to their heels and fled in panic, crushing and clawing one another in a desperate effort to squeeze through the narrow exit of the hangar.

"Come boys, we haven't a minute to lose. If we don't take off at once they will annihilate us with a fire-ball. Never mind trying to open the roof now," he called to Palmer as the grim little engine expert was attempting to start the hangar motors. "We'll crash through!"

BACK in the control room as soon as they were all aboard and the door was tightly sealed, Warren, Palmer and Nita worked frantically to start the repulsion rocket motors. As the gases hissed into the mixing chamber, Warren watched the pressure gauge anxiously. Would the needle never reach the red mark? He was afraid to fire the rocket blast before the gases were sufficiently compressed, for not only must the huge metal ship be given sufficient impetus to overcome the pull of gravity but it must burst through the massive chromite sheets of the hanger roof panels. The seconds were like hours; not a single voice broke above the hissing of the gas.

"There it is, Palmer! Hold it a moment. Now, fire!"

A terrific explosion that almost split their eardrums as the noise was amplified a thousand times in the closed hangar, then a crash against metal, a tearing and crushing, then through the observation window they saw the lights of the sky-city below them, and above them the stars. They were free!

The interior communiograph spoke, "Jules LaCosse in the forward compartment, sir. Nothing damaged except a slight groove in the ship's nose."

Reports from other sections of the "Earthbound" bore out the wisdom of Warren's hasty decision that the ship would tear through the hangar doors without any serious harm to itself. Warren checked his course, firing a light blast from the starboard steering tube, and then set the automatic controls straight for the icy planet, earth.

CHAPTER IV

FOR many days the "Earthbound" hurtled through the black void at a speed in excess of 200,000 miles an hour. Even in that age it was a long journey from Saturn to earth, requiring five earth-months of time. Later on, it is true, after Laj Cir, the great scientist of the planet Tuxul in the system of Markab, had harnessed the Ether Ray, the flight could be made in a few days. But the earthmen in the crew were contented. They were away from their aggressors, and Warren and

Nita were happy in the company of each other. And there was a definite and worthy objective for all of them, an opportunity to remove the stigma attached to outcasts and to establish a new world for themselves.

Two days journey distant from earth Warren was checking their course. Nita was in the control room with him studying the heavens through the televisor. Suddenly she gave a startled little cry and switched on the screen of the instrument.

"WARREN, there's a space ship following us!"

Bancroft dropped his charts and hastened to the darkened vision booth. The large screen showed myriads of stars and planets in a field of black, while directly in the centre was a foreign object that loomed larger and larger even as he gazed.

"Turn on the magnifier, Nita. It's a ship sure enough," he declared as the long silvery object filled the screen almost entirely. "It has the red stripes of the flag of the Space Police."

He made some hurried calculations, then turned to the transmitter of the interior communiograph:

"Hello, Palmer, we just picked up a police ship in the televisor; she is travelling about 250,000 miles an hour and is now 100,000 miles behind. At that rate she will reach us within two hours. Can you start the emergency tubes?"

"They are ready for service, Mr. Bancroft, but I am afraid that our fuel supply will run low if we use them."

"Cut them in. That is a chance we must take," Warren ordered.

Ross Griffin in answer to Warren's summons had rushed into the control room and the three anxiously watched the police ship on the screen of the televisor.

The first half hour after the emergency rocket motors went into action their pursuer dropped gradually behind, but when Warren again took space measurements he found to his consternation that the police ship was gaining on them.

"They too must have turned on additional power. Hello Palmer," he spoke into the transmitter of the engine room circuit, "Can we get more speed?"

"We've put on everything we have, Mr. Bancroft. The cooling system on two of the tubes is closed and I am very much afraid that they will burn out. The pyrometers show a temperature of 4,500 degrees Fahrenheit now . . . wait . . ." and his voice died away, to be replaced by hasty, unintelligible orders that Palmer was shouting in the engine room. There was a sound of something sizzling and steaming, then Palmer in an agitated voice, spoke again:

"I'M sorry I had to rush off. Those confounded tubes went out just now. Melted clean away. No, there was no one hurt," he reassured the anxious navigator, "but I will have to cut down the gas charges to save the other tubes."

"Well, do your best, Palmer, but I don't see how we can avoid being overhauled within a short time."

The three people in the control room kept their eyes glued on the televisor screen and with sinking hearts watched the huge ship gain on them. Was this to be the end of all their hopes and ambitions? Bancroft thought fast in the short space of time he had to devise some ruse that would save them. They were inside of the belt of asteroids so they could not seek refuge upon one of them. The nearest body was Mars; to reach it before they were overtaken was an impossibility now that two

of the tubes were burned out and the gas pressure had to be reduced in the others. As for offering resistance, they had no ammunition for any weapons larger than their portable blast-guns.

Warren was not concerned as much with the thought that his plans would be frustrated and that he would be sentenced to death as he was with solicitude over the fate of Nita. He reproached himself for having permitted her to come on a mission that was so hazardous. He felt that he had done a very selfish thing indeed. After all, Nita had her father who would not have seen her unhappy for all the world and surely he could have devised some way of keeping her from marrying Gurra. A six year course at the great University of Betelgeux on the remote planet B2-CR for instance, would have kept her away from the ugly Gurra. Well, it was too late now to retract what he had done, they must face what the future had in store for them.

THE fast approaching ship was of monstrous size. Warren recognized it as the largest and speediest of the vast space-police fleet. It was usually stationed on Pluto but must have arrived on Saturn just in time to serve Gurra's needs. No other ship could have overtaken them after the start they had.

The space communiograph was buzzing a calling signal. Warren switched it on. A harsh voice protruded itself from the loudspeaker into the control room:

"Heave to, Warren Bancroft. You can not possibly escape us. We will release the magnetic grapple. No foolishness now," the voice warned.

Warren cut the transmitter in. "Under what conditions are you taking us?" he asked.

"Your surrender must be unconditional. You are charged by Professor V-Si with kidnapping his daughter Nita, and by Gurra with attempted murder and the theft of his space ship. The penalty for any of these offenses is death in the Chamber of Purple Vapor. If you surrender we will spare the lives of your men."

Warren looked at Nita and then at Ross. His eyes showed no fear; they were quizzical; there was just a trace of a grim smile playing around the corners of his determined mouth.

"I am ready. To put up a fight would be futile. Gurra must have used up all of the fire-ball chemicals on this ship, there isn't an ounce on board."

"Warren, are you saying this to save us?" Nita's voice was accusing.

"He is, but he's not going to get away with it," Ross cut in. He was determined. "Nita and I talked this over and we are sticking it out, fighting it out. if you please. You don't for a moment believe that lying gang of Plutonian cut-throats, do you? Promise us our lives, will they?"

He turned to the interior communiograph. "Palmer, this is Griffin. Stand by to fire the steering blasts when the police ship comes abreast of us." Then to Warren: "There is a slim possibility that we can out-maneuver them. At least I am going to try it, come what will."

Warren looked at Ross gratefully. Then placing one arm around Nita's slim waist he walked over to the man and put his hand firmly on his shoulder. "With staunch friends like these I feel I could conquer the world!" he said solemnly.

When the giant police ship came alongside they saw the leering black face of Gurra through a porthole. He was talking to them over the communiograph, admonishing them to stop, threatening dire things if they dared

disobey. When the "Earthbound" maintained its even pace without complying with his wishes he resorted to trying to bully Nita. His shrill voice broke into the control room unpleasantly.

"Your father has asked me to bring you back, so you must obey him. He gave his consent to my marrying you and commanded that you give up your earth-slave," he wheedled.

A tinge of annoyance spread over Nita's delicate features. Then she flushed with indignation as she grasped the transmitter.

"Gurra, you ugly black monster, you lie! My father never gave his consent willingly. You threatened and bullied him into it. As for getting me—just try and do it!"

The black face at the porthole became horribly distorted with rage and thwarted hope. The lips parted to bare the crooked fangs. His reddish eyes were rolling with rage. He cursed out a command to the ship's officers and then shrieked into the transmitter:

"You Saturnian she-devil! I have had enough. You and your earthling will spin through space for eternity—not as living creatures—but as charred flesh and bones. See if you can defy a fireball!"

"Oh, the horrible monster, he wouldn't dare, would he Warren?" Nita looked up in alarm.

"I'M afraid that he is capable of anything, although this sounds like a bluff. The police are in his pay and they will follow his orders without question. See, even now we are spinning around, helpless in the meshes of the magnetic grapple projected from their ship. I'll try Ross' idea, a blast from the steering rockets."

He shouted an order to the engine room and a fiery flash from the side of the "Earthbound" was Palmer's response. Although the ship jerked like a startled fawn, she snapped back as if held by elastic bands and crashed violently against the hull of the police vessel. Again they tried it and again the same thing happened. It was of no use; they were powerless in the grip of their enemy.

THE two ships drifted about three hundred yards ayart. Then through the observation window the occupants of the "Earthbound" saw an incandescent body, a ball of fire, leave a cannon-like tube protruding from the side of the police ship.

"A fire-ball!" Warren shouted, "I did not think the devils would do it. Come Nita. Let me hold you in my arms for the last time, and as she rested her head upon his shoulder and closed her eyes to shut out the blinding intensity of the slowly approaching fire projectile, she whispered softly,

"I do not mind, Warren, I am happy—more happy here with you, knowing that this is the end than I have ever been before. Hold me tightly, and let us dream of our future. Our future, Warren, in another world."

A tomb-like silence pervaded the "Earthbound." The rocket motors had been shut down; the charging apparatus was likewise dormant. There was an awed silence throughout the ship. Warren and Nita had drawn into the shadow of the swithboard, while Ross Griffin stood upright like the good soldier he was, looking with unblinking eyes straight into the dazzling fire-ball, unmoved, unperturbed by the imminent catastrophe. A moment of respite for these earthmen and the brave little Saturnian girl before the hard, metal plates of the ship would become steaming fluid, before bodies that once moved, and loved, and laughed would become brittle and charred fragments of humanity.

BUT suddenly the silence of the void was punctured by sharp staccato tappings on the plates of the vessel, like hailstones, with occasionally a heavier thump that caused the ship to sway and pitch to a dangerous angle.

"A shower of meteors!" Ross exclaimed, "That was a large one." Then he became excited, "Warren, Nita, I can't see the police ship any longer! We are moving! We are falling away from them!"

The occupants of the control room on the "Earthbound" were thrown to the floor violently as the ship lurched and literally stood on its nose before being borne down, bow first, at a tremendously increasing speed by a huge meteor which had struck the vessel with a reverberating crash. By the time Warren, Nita and Ross had regained their feet the attacking ship was out of sight. And they were still plunging wildly through space to the safety of distance, thanks to the impact of the meteor.

Searching the ether through the televisor, Warren discerned the faint outlines of the police ship many thousand miles away. The communiograph picked up some feeble signals of distress that indicated that Gurra's vessel had been disabled by a meteor.

The feeling of tension and hopelessness that had pervaded the occupants of the "Earthbound" gave way to relief as they breathlessly discussed their miraculous escape from what appeared to be certain destruction. Palmer announced that the ship had not been damaged by the meterors and he was ready at any time to turn on the motive power.

Commanding Palmer to start the rocket motors, Warren headed the ship in the direction of the earth which was now a large white sphere in the sky. The next day they reached the outer blanket of dense atmosphere.

THE surface of the earth had been stripped of its atmosphere many thousands of years ago due to the counter attraction exerted by a huge celestial body. This wandering body had approached within a few thousand miles and drawn most of the air away from the surface, leaving but a thin layer of it enveloping the globe. When the roaming star or planetoid passed from sight the largest part of the earth's atmosphere remained outside of the gravitational influence of the planet where it continued to rotate as an invisible satellite around the earth.

At once the earth became chilled. The waters of the sea turned to ice, and the land froze solidly. It was like the coming of another ice age, only more permanent in its effects and more devastating.

Fortunately for the inhabitants of the planet, a period of approximately three months elapsed before it became impossible for life to exist. It was during this time that feverish activities were begun to leave the earth and seek refuge upon some other planet. Space ships were just being perfected, although they were still crude of design and unsafe. Gordon Bancroft, one of the foremost scientists and pioneer interplanetary explorers of the period was besieged with pleas and requests for transportation. In the short time remaining he labored night and day to construct as many space ships as it was physically possible for them.

THE hardships suffered by the earthmen during these icy days were heartbreaking. Their food was entirely consumed, fuel could only be obtained by blasting through steel-hard sheets of ice.

Millions had starved and millions more were frozen to death. and how many succeeded in leaving the dying

planet no one knew. Gordon waited until the very last to take off. Another day and he too, with his family would have perished.

After being refused refuge on Jupiter he was allowed to land on Saturn, where he and his small band were promptly bonded into slavery. In time his descendants had been freed, but the stigma of inferiority was never removed.

With the coming of the ice age, great changes were wrought upon the physical aspect of the earth. All traces of the former glory and civilization were mowed down by tons of ice, and archeological expeditions from other planets were unable to uncover anything of significance. But now, owing to an upheaval of the crust of the earth in a region that was once known as northern New Jersey, a portion of the ground with its story of ancient life, lay revealed.

WARREN had no instruments that would tell him what portion of the earth he was about to land on. Perhaps painstaking maneuvering would enable him to find the desired latitude and longitude, but he dared not take a chance of delaying. He planned to leave the ship with instructions for it to follow as soon as he called. When he reached his destination he would send out a directional beam which would guide the "Earthbound" straight and true. Then again, Warren was anxious to explore as much of the surface of the earth as possible, for which purpose the overland trip by sled would serve admirably.

The mechanics under the direction of Palmer had built a closed cabin sled, fitted with small rocket tubes. This vehicle could be propelled over the surface of the ice at a speed estimated in excess of a thousand miles an hour. The cabin was airtight and large enough to accommodate four people comfortably. It was equipped with heating elements, a communiograph set, scientific instruments and portable blast guns for defense. Relying upon established data concerning the density of the now rare earth atmosphere, Palmer had equipped the sled with a pair of folding wings which would sustain them when hopping from one elevation to another. This would be particularly useful in traveling over the difficult mountain passages.

By now the "Earthbound" was enveloped in the blanket of hazy upper atmosphere. Warren switched on the communiograph to every part of the ship.

"Stand by for landing," he commanded.

The stern rockets had been cut off and the bow counter-force tubes were brought into action, slowing the "Earthbound" slowly so that she eased down to a perfect landing on a smooth ice covered surface. In fact the entire country, as far as the occupants of the ship could see, was absolutely level. Everything appeared grey and forlorn. Even the sun was obscured so that it illuminated, but did not warm, the extinct planet. Already the extreme cold had begun to condense the moisture in the atmosphere on the outside hull, until the portholes and the observation windows were covered with a thick coating of frost. One of the mechanics appeared and attached an electric heating element to the window which melted the ice and permitted a view of the outside world.

As all preparations had been completed for an overland trip in the sled, nothing remained but to take observations to ascertain their location and to select the members of the expedition. By using a specially designed instrument that combined the features of the sextant and chronometer but required

neither sun, stars nor Greenwich time to determine latitude and longitude, Warren plotted his location on a chart.

"WE are plumb in the middle of what was once known as the Pacific Ocean. No wonder everything is flat as far as we can see. Our destination is 5,760 miles in a straight line if we set our course north-east by east. Allowing for the irregularities in our route we will probably have to travel over six thousand miles. Not counting on any unforseen delays we should reach New Jersey in six hours," Warren was explaining to Nita and Ross Griffin.

"Now for the crew. Ross and Palmer and I will constitute the male members of the expedition, and in order not to slight the ladies," turning to Nita whose face was getting longer and longer at the prospect of being left behind, he bowed elaborately and added, "we will take all of them along. But, mind you, Nita, I am not doing this willingly," he warned, "I would much rather have you remain behind in the security of the ship. Here they could never find you, but out there," he indicated with a sweep of his hand, "I am not so sure about it. But I realize how keen you are about going along with us, so I wouldn't stop you for all the world."

After giving some last minute orders to Wass Dorn who was to remain in command of the space ship, Warren and his companions climbed aboard the sled which the crew pushed through the air-lock out upon the ice. The men who had to expose themselves to the rigorous climate donned special garments which kept them warm and they put on helmets that supplied air. The suits that were to be worn by the four members of the overland expedition when they found it necessary to leave the cabin of the sled were double walled and warmed by a radioactive element. They were equipped with helmets and an apparatus for manufacturing artificial air.

Warren sat down at the wheel in the tiny cabin and snapped on the rocket ignition switch. There was a red flash and a reverberating roar as the sled leaped forward like a frightened deer. The four adventurers waved a hasty farewell to their companions and they were off across the trackless waste. Fortunately Warren and Palmer had driven rocket sleds on Saturn and were therefore familiar with the peculiarities of these strange vehicles. Sleds required greater vigilance in handling than space ships as the contour of the ground had to be watched constantly, although this condition did not trouble them on the smooth frozen surface of the Pacific Ocean. When they reached the land, conditions would be different and travel more difficult.

THE tree descendants of earthmen felt the tug of their home planet deep down in their hearts. While for many generations their forefathers had lived upon an alien world, still a nameless something kept telling them that at last they had come back to their rightful heritage. Not for a moment would any of them admit it, but they looked with wistful eyes upon the bleak solitude and hid from one another eyes that lost brightness with mist.

Three hours of fast traveling brought them within sight of a high elevation. This was the coast of California, with the Coast Range Mountains in the background. Warren worked a lever which brought the wings of the sled into service, and just before they reached the high coast he increased the speed and adjusted the elevators so that the vehicle lifted itself from the ice and soared up over the first obstruction. By

skillful maneuvering Warren was able to avoid irregularities that might otherwise have been serious barriers to their progress.

THE journey over the range of mountains was, however, more difficult. Here they experienced their first near-tragedy. The sled was traveling on its runners up the steep slope with the front of the vehicle pointing up an angle of forty-five degrees. It was necessary to proceed cautiously, yet fast enough to prevent stalling on the heavy pull. Rounding an icy hummock, where the view ahead was obscured, the sled encountered a wall of ice. Warren cut in all the rocket tubes in order to lift the vehicle over the obstruction. She sailed up and cleared it perfectly, but came down heavily on the other side. There was a cracking and crunching of ice as the sled broke through a layer of frozen surface. To their horror the travelers saw that they were crashing through and falling into a deep crevasse. The sled was slipping sideway, the runners screeching shrilly as if in protest.

"Charge the right hand steering rockets, Palmer. Don't move anyone," Warren warned as their hearts thumped wildly.

Palmer worked feverishly turning valves and starting the auxiliary compressor. It required but a few moments, but to the white-faced occupants of the careening sled it seemed like ages.

"There it is, Mister Bancroft," the engine expert panted.

"Hold tight, everyone. Here we go!" and, as Warren threw the switch, a flash of fire came from the right hand tube, followed by an ear-splitting explosion from the heavy charge.

The sled shot sideways as if thrown by a giant hand. Luckily for the adventurers the force of the rocket tube was sufficient to hurl the sled up to the plateau above where it landed on its side, precipitating its crew headlong over one another.

Fortunately no one was hurt and the sled was undamaged except for a broken window. Although the cabin was equipped with a glass which had the strength and flexibility of fine steel, the concussion was too violent for it to withstand such a shock. Having foreseen such a contingency, spare panes of glass of the exact size were available and the damage was consequently repaired in short order.

During the brief period when the cabin was open to the outside world the cold air had penetrated, chilling everyone until their limbs were stiff from the exposure. The air within had escaped which rendered breathing difficult. They had not the time to don the special garments before it happened, but now, upon the insistence of Warren they pulled the clumsy suits over their regular clothes.

"It's best to be prepared in case something like this happens again," he explained.

Since the beginning of the journey over the frozen world Nita had been silent, not wishing to obtrude herself upon the busy navigator and his companions. She had much time for reflection and planned for the future, when Warren would become established as a reputable scientist in this new world. Although she loved her home planet, Saturn, she looked forward happily to the day when the earth would be habitable.

CHAPTER VI

THE mountainous region between the west coast of the United States and the central part of Colorado was difficult traveling. It re-

quired two hours of skillful piloting on the part of Warren and must have been extremely nerve-racking to the others. But they did not voice their feelings, recalling instead their past experiences or speculating optimistically about the future.

Ross Griffin had been in constant touch with the "Earthbound" by means of the communiograph. Wass Dorn, who had been left in command of the ship, had nothing of interest to report; everything was just as they had left it. The long range televisor on the space ship had not picked up any other craft so there was no means of knowing whether or not Gurra had finally been able to give chase.

The Mississippi River was marked by a winding canyon of ice that extended north and south as far as they could see. Soon after, they reached the Ohio River and traveled along in its frozen bed for a time until Warren put on skimming speed and the sled lifted up over the mountains of West Virginia and Pennsylvania. Warren and Ross checked their position constantly and readjusted the course of the sled as required.

They had been under way for more than seven hours now and would soon reach their destination. The faint outlines of the sun could be seen dropping behind white-peaked mountains of ice, lighting up the western horizon with a faint yellow glow. Soon it would be pitch dark, for twilight lasted but a few minutes in the rarified atmosphere of earth. Anxious to reach the site of Dr. Ru Va's camp before dark, Warren ordered Palmer to energize the spare rocket tubes to increase their speed.

NITA was peering through the the gloom but could see nothing with the naked eye. She reached for the portable, short range televisor and directed it straight ahead on their course.

"Oh, Warren, I see a light!" she shouted excitedly. "Look, there just ahead of us."

He took the instrument from her and looked. Sure enough, a tiny yellow glow that became more pronounced as they approached, marked the site of human habitation.

"It must be Dr. Ru Va's camp. Hm —that's queer. I can't see it. now The light is gone."

With a puzzled expression on his face he returned the instrument to Nita who searched the darkness ahead and finally laid the televisor down.

"I can't see it now either. I am sure that it was a light. Perhaps they turned in for the night and put it out."

Warren had slowed the sled down to avoid running past the place and at low speed he crept up the last incline to the location that his instruments told him must be the camp site of the expedition. He was positive that this was the very spot that the light, which he and Nita had seen, came from. But instead of hearing voices of welcome in response to their shrill signal horn, nothing but echoes came back to the expectant group.

ROSS switched on the high powered rhomium illuminator and swung it about in an arc. The brilliant beam lit up the blue-white ice and dazzled the eyes of the watchers. There were heaps of red earth and rock where the expedition had been excavating and as the light swept around it caught the flash of metal. Ross Griffin immediately focused the beam upon this mirror-like surface.

"Zistite metal explorers' huts!" Warren cried, "Hold it there, Ross."

In the brilliant light they had no difficulty in seeing clearly. Two huts built of the new non-conducting metal zistite stood revealed not more than a

hundred yards away. This metal had been adopted for building portable huts and even houses in regions where extremely high or frigidly low temperatures prevailed. The metal was almost an absolute non-conductor of heat and was therefore admirably suited for this purpose.

There was no sign of any one about the place and as final proof that the cabins were deserted they saw that the doors of both of them were wide open and swinging in the sub-Arctic wind.

"We will have to get out and search around. I don't exactly like the looks of this," Warren said as he picked up a blast gun. "Just in case we need it," he remarked significantly.

THEY had strapped ice creepers to their shoes, a necessary precaution when walking on the glass-smooth surface of this frozen planet. Having been cramped in the close quarters of the tiny cabin, the four were stiff and found it difficult to walk. After stumbling several times they reached the first hut. Warren had a premonition that there was something inside that Nita should not be permitted to see.

"You folks wait here until I come out. I'll call if I need you."

And with this he walked in, flashing his rhomium illuminator around inside. The sight that met his eyes was a horrible one. There, thrown brutally into bunks that lined the wall were the headless blood smeared bodies of five men. The red blood was frozen as it had dripped in rivulets from jagged stumps of necks. Dumped unceremoniously in a heap in one corner were the heads that once belonged to the bodies. Warren saw the room reeling around him; he felt a queer sensation in the pit of his stomach, then shut his eyes and staggered outside.

Nita was alarmed. "What is it, Warren? You are white. Do you feel ill?"

"I'll be all right. It's horrible in there. Don't go in, any one. Five men, brutally butchered. I must take a peek into the other hut. Wait here."

Although still white and shaken, Warren resolutely walked in through the open door of the second cabin. He reappeared in less than a minute. By now he had regained his self-possession, but was plainly puzzled.

"Nine of them in there," he indicated the second hut with his head, "They too, were murdered. Not a soul alive anywhere; I can't understand it. And there were some living beings here not very long ago according to the light we saw.

"Suppose you take Nita back to the sled, Palmer, while Ross and I try to puzzle this thing out. Better try to get a little sleep, Nita, we may be late in returning."

When the others had left Warren gave Ross a detailed account of what he had found in the huts. Try as they would they could not for the life of them come to any satisfactory solution of the mysterious murder of a harmless old scientist and his colleagues. That it must have been done by some type of thinking creatures was self evident as a close examination of one of the bodies disclosed traces of seared flesh where the head had been severed from the body.

"IT was unquestionably done with a flame-knife," Warren muttered as he forced himself to perform the unpleasant task of examining the corpses, "and flame-knives are the favorite weapons of Plutonians. I wonder if it could have been . . ."

He was interrupted by a shout from outside. It was Nita running towards the cabin. He hurried to meet her before she should enter the horrible place.

"Oh, Warren," she panted, "I just heard the most awful thing over the communiograph. The Central Universe Police, acting upon information received from Gurra, have been ordered to earth to arrest you for kidnapping me. And that is not the worst, Warren, you are charged with murdering Dr. Ru Va and the members of his expedition!"

FOR a full minute Warren stood there without answering. Then the unbelievable accusation registered fully in his mind. He clenched his fists to suppress his pent up emotions, but answered calmly enough as he reconstructed the events as he thought they had happened:

"Ross and I had just arrived at the conclusion that the explorers had been murdered by means of a Plutonian flame-knife. Now it is quite clear that Gurra must have arrived here in a space ship of his own after abandoning the police craft. He then surprised Dr. Ru Va and his men, murdered them, took all of their findings and then brazenly communiographed to the Chief of the Universal Police that I was the guilty one.

"Now the question is, where is Gurra and his gang of cut-throats and how much time do we have before the police swoop down upon us?"

These questions were difficult to answer. But it was evident to Warren that he must establish proof of his innocence. He knew well enough that the sworn testimony of Nita and his other two companions would not avail against the corruption of the Court of Interstellar Justice, after Gurra's powerful influence was brought to bear upon the judges.

However, Warren had no intention of being caught defenseless. He walked back to the sled with Nita and picked up several black boxes containing delicate scientific instruments. He removed a micro-camera and set it up, close to one of the bodies in the cabin, and then focused the sensitive lens upon the severed flesh. In a few moments he had a permanent record of the microscopic structure of the seared tissue.

Then he unpacked the recording-analyzer which registered on a specially prepared chart a chemical analysis of the carbonized tissues. With these two instruments used in conjunction Warren hoped to establish beyond dispute the fact that the weapon used was a flame-knife, a devilish device which only a few high-born Plutonians were permitted to own.

Warren and Ross were weary by the time they completed the work of recording the evidence and they left the cabin to return to the sled for a night's sleep. In the morning they intended to begin excavating the frozen ground in search of Gordon Bancroft's laboratory which they estimated to be not more than two miles from where they were. Outside it was pitch dark. The heavy outer blanket of chilled atmosphere did not permit the moonlight or starlight to penetrate to the surface of the earth.

FOR some unknown reason Nita had switched off the rhomium illuminators. This puzzled Warren for a moment, then he accounted for it by assuming that the glare was so strong that it would not permit her to sleep. She was tired, he thought, and needed all the rest she could get. His portable illuminator flickered feebly and then died down to a faint red glow. The steady use of it had exhausted the rhomium charge and he had not brought a spare tube along. The only thing left to do was to feel their way back to the sled over the slippery ground, mak-

ing sure to avoid a deep crevasse to the right.

SUDDENLY they were blinded by a light. It came from the direction of their sled. For just one moment Warren and Ross thought that Nita or Palmer had turned on the most powerful rhomiums. But never before had they beheld anything so intensive. They were forced to shield their eyes to shut out the terrific glare.

Then something hot and searing swept across Warren's legs and he could not suppress a cry of pain. As he instinctively clutched the calves of his legs he saw with growing alarm that his tight fitting explorer's suit was on fire! He beat out the flames, although his palms were scorched and he leaped back, shouting a warning to Ross.

Then they heard voices; one was high pitched and grating. He could not mistake it. It was the voice of Gurra! It was his light they had seen in the distance when they had approached the site and he and his men had evidently been hiding in ambush until they thought it safe to attack.

Above the din Warren heard Nita screaming his name. The two men were confused by the suddenness of the thing, but they rushed forward savagely, to be met by the hot, searing flame. They dropped to the ground with a strangled cry, but the flame followed them relentlessly and burned the hair and skin on their scalps. By now they were half frantic with rage and pain. They ran desperately to escape the blinding light and the hot flame, but it followed them pitilessly.

Vague, disjointed thoughts flashed into Warren's mind. Gurra would play with them, torture them in the sight of Nita, and when he tired of his devilish game he would merely focus the flame to a knife edge and sever their heads from their bodies. And Nita . . . ? What would become of her?

IN their frenzy the two men raced madly in ever-widening circles. Far to the right they collided violently. Their bodies sprawled on the ground and the force of the impetus rolled them over and over again down a steep incline. Although almost senseless with pain, Warren realized that he was being propelled towards the edge of the crevasse. But he did nothing to stop himself. It would be far better to be dashed to pieces at the bottom of a mile-deep crevasse than to be roasted ignominiously by the evil Gurra. He lost consciousness just as Ross' rolling body struck him and carried him over the edge.

CHAPTER VII

WHEN he opened his eyes he felt Ross bathing a deep cut on the top of his scalp—bathing it with warm water! As his eyes became more accustomed to the dim yellow light he realized several things—first, that Ross and he were both miraculously alive, and second, that the ground was free of ice and warm and soft. And he was able to breathe, although with some difficulty, without his helmet!

"OH, what a head! It feels as if an atomic disintegrator was working in there. Let me up . . . "

And as he tried to rise Ross gently but firmly pushed him down. Then for the first time he saw that his right arm was heavily bandaged and secured in a sling.

"You just stay right where you are. I had trouble enough to stop the flow of blood from that ugly gash in your scalp without applying a tourniquet to your neck. Now I don't want to go through the agony of it again. And

watch that right arm of yours. It was yanked from the shoulder socket, but I guess I set it properly. Those three years in pre-medical school did me some good after all," he laughed.

"What makes the ground so warm here? All the ice has been melted," Warren puzzled after he had resigned himself to remain in a horizontal position.

"Hot springs," Ross explained, "apparently caused by the percolations of water through hot volcanic substances. You were saying some time ago that during the period the earth was inhabited this region was never suspected of being volcanic, but great changes must have been wrought in the earth's* centrosphere since that time. And we are now deep below the surface of the earth. Look up there."

THIS was the very thing Warren had been doing. Lying flat on his back he could not very well have avoided it. But now he concentrated his gaze on the canyon of ice that reached above him on both sides like the letter V, with him at the nadir or point or edge. While he could see that it was possible to roll or slide down the sides of the crevasse and through a miracle remain alive, not a host of miracles would enable them ever to climb out of there without some aid.

"It's a mile high if it's a foot. And me here with a dislocated arm," he groaned a little as he tried to move the injured member.

It must have been late in the afternoon, judging by the deep shadows at the bottom of the crevasse before Ross would permit Warren to rise and walk around. Ross himself had been painfully bruised and cut, but his wounds were superficial and did not incapacitate him. Food was a problem. Not a bite had either of the men eaten since noon the day before. Fortunately they found water, but it had a pungent odor and tasted disagreeably of sulphurous acid.** It was evident that they must try to find a way out of the crevasse at once. The longer they waited the less likely would they be able to withstand the hardships of a climb, if their search revealed a break in the smoothness of the sides of their prison walls.

It was a relatively simple matter to decide in which direction to travel. The bottom of the gorge was not more than ten feet wide; the canyon stretched away in one direction for about a half mile, then it made a bend, beyond which the two men could not see. In the other direction the canyon terminated not more than two hundred yards from where they were; here the ice rose sheer like a huge dam. The soft, spongy ground made it difficult walking, as the men would sink ankle-deep into the swampy mud. They had to pick their way cautiously around fumaroles,*** which they found in great abundance as they progressed. After a short time they were compelled to replace their helmets, as breathing the rarefied air became painful to their overburdened lungs.

AS Warren trudged along his thoughts were on Nita. More than likely she was now on board of Gurra's ship bound for Saturn. If he could only get out of this—but what would he do then? The cunning Plutonian had undoubtedly destroyed his sled, and the "Earthbound" was six thousand miles away, with no means of communicating with it. Wass Dorn

*The centrosphere is the interior of the earth from the lower or inner limit of the crust to the centre of the globe.

** Not to be confused with sulphuric acid. The formula of sulphurous acid is H_2SO_3, that of sulphuric acid, H_2SO_4.

*** If condensable vapors issue from the ground in abundance so as to give the appearance of smoke, the places where it occurs are called fumaroles.

would undoubtedly begin to search for them after losing communiograph contact with the sled, but, even if he did manage to reach the plateau above, how in the world was he to know that Warren and Ross were stranded a mile below in the crevasse? It appeared very much as if a descendant of Gordon Bancroft, after thousands of years, had returned permanently to his ancestral home-site.

The deep shadows became darker, the ribbon of grey sky above was no longer clearly defined. How far they had traveled over the marshy ground was difficult to estimate with any accuracy, as they were forced to stop innumerable times when Warren's head made him reel dizzily until he had to lie down to ease the pain. The character of the walls had not changed; in fact, if anything, they were more sheer, offering not the slightest hand- or foothold. Even if they possessed mountain climbing equipment, it would have been impossible to scale those precipitous walls.

Exhausted, hungry and suffering from the pain of their wounds, the two lay down on the soft ground and slept fitfully through the night. In the morning, somewhat refreshed by a bath in a warm spring, but with the pangs of hunger gnawing at their stomachs, they took up the journey again.

Ross was walking ahead, peering off into the distance while Warren was scrutinizing the walls, trying like a pygmy to find a defect in the armor of a giant. Suddenly Ross stopped and pointed excitedly ahead.

"WARREN, Warren, look over there," he cried in a hushed voice, "see those white things moving? No, they are not blocks of ice. They must be living creatures—either that or it's my eyes."

"No, there is something moving beyond doubt. I see it, too," Warren cleared away Ross' doubts, "and they are coming towards us!"

This was indeed true. The obscure white shapes were becoming more clearly defined now as they assumed the unmistakable outlines of living creatures. They had white fur, and the two men were amazed to see that they were walking upright on two hind legs! There was no thought of retreat on the part of Warren and Ross; something seemed to tell them that there was nothing to fear.

As the creatures came closer they appeared for all the world like lean-bodied polar bears walking on their hind legs. Their bodies and legs were shaggy with white fur; their torsos were slim except for the immense swelling chests. But here the resemblance to animals ended. Warren and Ross looked sharply at the creatures' heads and faces and drew back in astonishment. Those faces, covered as they were by closely matted white hair, were undeniably human!

"BEAR-MEN!" ejaculated Warren. "Descendants of those inhabitants of earth who could not flee to other worlds. Ross, it is unbelievable; am I right or has my mind been affected by that laceration on my head?"

"They *are* human, and what is more they wish to speak to us. Their voices sound quite natural; just listen," Ross said, fascinated by the sight.

A hundred yards away the band of ten Bear-Men were gesticulating and talking excitedly among themselves, occasionally pointing towards the two strange creatures. By listening carefully Warren and Ross were able to distinguish some sounds that had a familiar ring to them, but the distance was still too great to make them intelligible. They had not long to wait, however, before

the strange, white creatures reached them.

One of them stepped forth and advanced. "Hullo!" he shouted in a deep voice.

WARREN waved his hand and responded in English with a "How are you?"

At first the Bear-Men, in spite of their ruggedness and gigantic size as compared with their slim descendants from common ancestors, were shy and non-committal. They looked at the two strange creatures timidly, then, more boldened, they felt their garments and shoes. Warren and Ross had lost most of their instruments, including the rhomium illuminators and blast guns, so had but little to show of the scientific and mechanical marvels of an advanced civilization. As it was, the two were more concerned with the all-important consideration of getting some food into their stomachs than in trying to impress these primitive creatures with their superior attainments.

Warren asked for food and at the same time indicated by gestures that he wanted something to put into his mouth and chew. Although they had some difficulty in understanding him, they answered in a dialect which followed the obsolete English language that was spoken in this region during the period when the earth was in her full glory of civilization. The descendants of earth-men who had accompanied Warren on his perilous journey were all able to speak the English language to some extent.

It was a source of pride to them to perpetuate the mother tongue from one generation to the next, in spite of the persecution they had suffered because of it on the foreign planets. While many words had been lost or modified beyond recognition and the dialect was somewhat altered, yet it would have been perfectly possible for an American of the twentieth century to carry on an intelligible conversation with a descendant of an earthman living on Saturn. So it was in the case of Warren and Ross and the Bear-Men; they soon understood one another.

The leader of the Bear-Men, he who called himself by the earth-name of Drew Harv, questioned Warren and Ross, and the two men briefly related their story. The white-haired creatures listened with child-like expressions to this tale of strange lands and marvelous machines. They were astonished to hear what had happened up on the plateau, whither because of the extreme cold and rare atmosphere the Bear-Men had never been able to ascend. They drew aside and whispered among themselves. Then Harv looked suspiciously at Warren.

"You say that you are descendants of men of this world? True, you are white and your form is not unlike ours, except that you conceal your bodies in strange rustling stuff." He pointed to their garments. "Are any people in the land where you come from black in color, with ugly faces. short of arm and have they long, sharp talons for fingers?" he asked abruptly.

The two men were startled.

"Can he mean that he has actually seen Plutonians?" Ross whispered.

WARREN shook his head in a puzzled manner.

"Such people as you describe are from the distant outer planets of this solar system. called Pluto. Where have you seen such men? It was Warren's turn now to ask questions. It was barely possible that these people might have seen Gurra and his men up on the plateau.

But Drew Harv did not choose to

offer any further explanations. Instead he motioned to his men, who gripped Warren and Ross by the arm and directed them straight ahead. They trudged along in silence, both men occupied in puzzling out this new state of affairs while their captors walked stolidly behind. Warren and Ross could hardly credit their senses—to think that after these thousands of years during which time the earth was supposed to have been uninhabited, they had now dropped right in among the remnants of a past, great race of people. The thing was incredible, yet it was true.

Although they felt no concern about their immediate fate among the Bear-Men, the sudden suspicion displayed by Drew Harv did not augur well for their future. Did he by any chance link them with the race of Plutonians against whom he seemed to have an instinctive hatred? The description he had given of this black race was too accurate to be regarded as a chance query.

CHAPTER VIII

BEFORE long they reached a break in the sheer wall of the canyon. It was a dark hole hollowed out like the opening to an underground cavern. Warren and Ross were pushed through this narrow entrance between two pillars of jagged rocks and were led along a pitch black corridor where the stench of decaying organisms came unpleasantly to their nostrils. In the darkness the two collided against the sides of the tunnel many times, and each time Warren hit his bandaged arm against some jutting stone, he could not suppress a low groan.

After stumbling through the passage for perhaps a hundred feet, the smell of decaying vegetation was replaced hy the even more offensive pungent and suffocating odor of burning sulphur. Here the gloom was broken by a smoky greenish flame directly ahead of them. Following the light they entered a chamber hollowed out of hard rock, some fifty feet in diameter, with ceilings lost in the dim haze of smoke above. At the far side, in what appeared to be a huge open fireplace, they discovered the source of the greenish illumination. A fire, fed by subterranean chemicals, was burning with a low flame and a great deal of smoke. It served, however, to take the dampness out of the air of the cave.

Rough stone benches and tables constituted the only furniture, while for decorations the walls were lined with iron tipped spears and swords of crude forgings. It was evident that these people had preserved the use of metals, although their products were pitiful, considering the high state of scientific progress reached by their forefathers thousands of years ago. It was a case of gradual decadence of a past civilization rather than the primitive foreshadowing of a new one, Warren thought sadly.

DREW HARV and his men were courteous enough as they invited Warren and Ross to sit down at a table. Copper platters heaped high with food were laid before the famished men, and they voraciously devoured every bit without questioning it, until their enormous appetites had been satisfied. One dish was an excellent broiled vegetable that they identified as a strange variety of mushroom, while the other, in contrast, consisted of fish which was almost tasteless. Their hosts answered their puzzled query regarding the source of the foods. The fish were chopped out of the solid ice at the bottom of what had once been lakes and rivers, where they had been preserved in cold storage since the waters of the earth had frozen

solid. The mushrooms were cultivated in the caverns; the Bear-Men had achieved some wonderful results with this fungus through cross-breeding, and some varieties grew to the enormous height of six feet. It was their staple diet, as bread was at one time among their ancestors, and contained all the essential vitamins.

Feeling much refreshed, Warren continued his conversation with Drew Harv, telling him of his hopes of finding the site of Gordon Bancroft's laboratory. The Bear-Man was interested. He plied Warren with numerous intelligent questions, finally revealing the fact that the name and deeds of Warren's illustrious ancestor, dimmed by time, had been handed down through the generations as a legend. He was considered an heroic figure, ranking with such names as Edison, Marconi and Einstein.

Finally Warren brought the conversation around to the subject nearest to his heart.

"If you will give us aid in excavating in the region of Gordon's laboratory I am sure that we will find something that will be of great value to your people in reconstructing the civilization of the earth," and Warren, noting the crafty look on the Bear-Man's face, added significantly, "and of increasing your own power."

"It might be arranged," Drew Harv admitted with feigned uncertainty, "but first I must discuss it with the Three Ancients who are the rulers of the Dwellers of the Caves. You will be taken to your quarters, where you are to stay until I send for you." And in the event they harbored any thoughts of flight, he suffixed his statement by a direct warning against any rash attempts in that direction.

"I have a hunch that old Goat Face will do his best to help us in our search," Ross whispered when they had been taken to a tiny hole-in-the-wall cavern where they huddled around the warmth of slowly oozing subterranean vapor.

"It seems that the desire of man for power has not lessened, even though his civilization crumbled back almost to the stone age," Warren philosophized. "Ross, I can't help thinking about Nita. I try my best to hold myself together, but this inaction is just wearing my nerves to a frazzle. If we don't get out of here and up to the top of this hellish hole soon, I'll go out of my mind," he said despairingly.

Ross tried his best to comfort him, but neither man could lift the burden of uncertainty from his heart. It seemed extremely unlikely that they would ever see their loved ones again. Even though they were brought back to Saturn it would be as fugitives and criminals, given a short, cursory trial and then sent to the horrible Chamber of Purple Vapor Better, they thought, to die here on earth than to return to ignominy and torture.

SLEEP brought a healing influence to their distraught minds, for when they awoke it was with rekindled hope that they contemplated the future. Their bodies had been refreshed by food and rest and they were ready to take a new grip on their problems. So it was with considerable impatience that they awaited some word from Drew Harv regarding the decision of the Three Ancients under whose patriarchate the Bear-Men lived.

But it was a long wait. All that day no one came near them except an old serving woman, who silently brought food and water and as silently withdrew, answering no questions, not even indicating that she heard them.

"I don't trust that man, Harv," Warren muttered impatiently, stamping up

and down in the narrow confines of his cell-like cave.

Another day passed without a word, as did another night. They kept track of time by means of Warren's universal chronograph that had fortunately remained unbroken. Then, quite ceremoniously, a tall, shaggy Bear-Man came into their cave and silently beckoned them to follow. They were led back to the large chamber, where they found Drew Harv waiting for them.

"There are good tidings for you, sirs." He was unusually polite. "The Three Ancients in their wisdom have approved your venture. You are to have all the aid you need; we are at your service."

IMMEDIATELY upon receiving this promise of help, Warren and Ross began to make preparations for the stupendous excavation work that would undoubtedly have to be done to reach the strata of earth beneath the ice cap where they estimated the ruins would be. The problem of reaching the top of the plateau with the necessary equipment was relatively simple they found out, as a tunnel ran from the caverns to the surface above. But there was one insurmountable obstacle in their way. The denser atmosphere in the deep crevasse had sufficient oxygen to support life, while a mile above it would be impossible for the Bear-Men, even with their enormous lung capacity, to live for very long. For this very reason the Dwellers of the Caves had found it impossible to venture to the regions above. There were two possible solutions to this problem: one was to equip their men with masks, a plan abandoned almost before it was conceived, as they lacked the material from which to construct them, and the other was to perform the work of excavating without any outside help, a seemingly impossible task. For a long time they were perplexed, but suddenly Ross Griffin slapped his startled friend on the back, so heartily that Warren winced with pain.

"It's the easiest thing in the world! You and I can do it alone. How? By applying the cunning chemistry of the Bear-Men. They can help us after all.

"That blue crystal that they saturate with water to use as fuel for cooking their food is a radio-active compound of their own that has tremendous possibilities. Yesterday, while you were taking a nap, they took me down below to a deep underground cave, where I saw their chemists compounding it from minerals they mine in this location. They demonstrated a concentrated mixture that burned with such an intensive flame that it melted a block of granite. Just think, with that chemical we can drill a shaft right down through the solid ice and soil and even rock until we reach the required depth. And the quantity needed is so small that the two of us can carry it without difficulty in one trip."

Warren recalled with what curiosity they had first examined this compound, little dreaming that it was actually manufactured by this race which was so backward in other things. But in the worries that had beset him, the idea that this substance might be of value in their work never came to him. Wasting no time, they made their wants known to Harv, who immediately issued orders to his chemists to prepare a large quantity of the concentrated crystals.

CHAPTER IX

WHILE Warren fretted impatiently at the delay, the skilled chemists toiled unceasingly day and night over giant retorts until they

had crystallized about one hundred pounds of Radonite, as the substance was called. Then with the precious crystals carefully protected against moisture in bags of fish skin, Warren and Ross were ready to leave the cave through the passageway. Equipped with copper shovels and picks, bags of Radonite and the neutralizing agent Urvion, they were heavily burdened and could move but slowly.

Warren led the way through the tunnel, the Dwellers of the Caves deciding that it was safer to remain behind. As they rested after passing up the first sharp incline, Warren turned to Ross and held his fingers to his lips.

"Listen, do you hear that? It sounds just like Nita's voice!"

Low musical tones, muffled by the solid rock, came to them as they placed their ears against the wall.

"I could swear that it was hers," Ross whispered, "but that is impossible. It must have been one of the native women; you know how they can vary the pitch of their voices."

They listened intently for another minute, but were rewarded by nothing but silence. After all, Warren reflected bitterly, Nita would be back on Saturn by now and probably unhappily married to the monster Gurra. Thinking of this did not put him into a very cheerful frame of mind; all his moodiness returned and he answered Ross in short monosyllables.

The sharp upward grade eased to a more gradual rise, for which neither of the toiling men were sorry. In order to gain the top of the plateau, which they estimated to be one mile above the bottom of the crevasse, it was necessary to travel more than three times that distance in the darkness and over a rough, boulder-strewn floor. The grey, irregular patch ahead, proclaiming the upper end of the tunnel, was a welcome sight to the weary, almost incapacitated men.

The region where they emerged into the fitful daylight was unfamiliar to them. In all likelihood it was a considerable distance from the scene of their encounter with the Plutonians, as neither the cabins nor the sled was anywhere in sight. The two dropped their heavy loads and after a brief breathing spell started towards where they judged the cabins to be. Fortunately they guessed right the first time, for after about five miles covered at a fast rate over the icy terrain, they could make out the flash of light on the Zistite metal huts.

Their expectations were replaced by disappointment when they found the sled gone, the hard ice showing faint tracks that were lost a short distance away. The micro-camera and the recording analyzer were exactly where they had dropped them when they were attacked. They hid these instruments in one of the cabins for future use.

"The devils, they have taken the sled with them." Warren voiced his bitter disappointment. "Now we have no possible means of communicating with the "Earthbound" or of ever hoping to reach her. To make the six thousand miles on foot would require almost a year. No, the only thing we have to look forward to is that Wass Dorn has already decided to search for us. Even then he must hurry, for God knows at what moment the police ship will swoop down upon us."

"We can at least get our bearings from here, Warren. It's a lucky thing that we took note of our position when we stopped here in the sled. Now we know the general direction and the distance."

"Yes," the other man answered, looking off through the haze to where a huge peak of ice rose above the ridge of white mountains." According to the

map the site of Gordon Bancroft's laboratory is over there to the left of that peak, and it is exactly twelve and a half miles from here. By keeping track of our steps we will be able to measure the distance with sufficient accuracy until we reach some of the other landmarks that Gordon mentioned in his notes. But I wouldn't place too much reliance on finding any of them after all these years."

They returned to the mouth of the tunnel to pick up the Radionite and their tools, after which they trudged determinedly towards the slender spire of ice. The shadows deepened and the grey light gave way to darkness, whereupon Warren called a halt. The two ate a handful of cold mushroom cubes, rolled themselves in blankets made of fish skin stuffed with asbestos wool and slept, without being rested, on the hard, icy surface.

As soon as the light was sufficient for them to discern their distant landmark they started and before noon they reached the site. The flat ice-covered landscape offered no clue; to sink a shaft at random would be nothing short of a gamble, for the ruins of the laboratory buildings covered but a small area, and there were many miles of unmarked country in which to locate this almost microscopic thing.

"LET me try to remember the description that Gordon gave iu his diary." Warren sat down and thought deeply. "He mentioned a small lake in the rear of his main laboratory building. In fact he thought it was good sport in his moments of relaxation to drop a line from the window and fish for what he called 'suckers.'"

"How is that going to help us now with every drop of water frozen as solid as rock?" Ross asked.

"A lake would leave a depression in the surface of the ice when the earth froze over," Warren explained, "and if there was no upheaval in the crust of the soil, as was the case back there," he pointed in the direction of the explorers' huts, "then we should find the lake without much trouble."

The ice was fairly level in this region and any depression in its surface could be detected readily. The men separated and, walking in opposite directions, began to search carefully.

"Warren, Warren, here it is!" Ross shouted from the distance.

Warren hurried to join him and checked his findings. There in the otherwise smooth surface of the ice was a hollow about two hundred feet long that might at one time have been a small lake.

"Yes, this looks like it, Ross. We'll sink test shafts at both ends unless we are lucky enough to strike it the first shot," and, wasting no more time on words, Warren began measuring out a quantity of Radonite that he estimated was sufficient to melt through a twenty-five-foot layer of ice and provide a shaft six feet in diameter.

From that point they would be compelled to sink the shaft in stages of five feet at a time to avoid going too deep. He inscribed a circle in a likely looking spot at one end of the lake and sprinkled a small quantity of the neutralizing chemical Urvion around the circumference to confine the action. Then, covering the area of the circle lightly with the radio-active* crystals, the men stepped back hurriedly as the Radonite began to glow red, then white hot, con-

*Radonite, as compounded by the Bear-Men, contained a certain amount of radium. The other substances served to speed up the disintegration of radium so that its atoms were transformed into heat energy. One gram of radium evolves about one hundred and twenty calories of heat an hour, which is more than enough to raise its own weight of water from the freezing point to the boiling point. Radium also decomposes water. A gram (about 1/28 of an ounce) of radium emanation has the same content of energy as two tons of the best coal burned in pure oxygen.—Energy and Matter, by Charles B. Bazzoni, The University Press, N. Y.

verting the solid ice into water which instantly turned into steam. As the action became more violent and the substance burned deeper into the ice, a huge geyser of live steam and hot water shot up with a roar in a column six feet in diameter to the height of five hundred feet. The two archeologists gazed at this man-made phenomenon with awe.

"I HOPE that the action stops soon." Warren's voice sounded dubious. "Otherwise it might continue right on through the laboratory and disintegrate the safe and the documents inside."

"Perhaps we should have sunk a test well first," Ross mused remorsefully. Then, realizing how ridiculous his suggestion sounded at this time, he smiled a bit wanly. "I only hope we are at the wrong end of the lake; then we can be more careful the next time."

The concern felt by the men was not unfounded. They were experimenting for the first time with a powerful chemical action they had no way of gauging or controlling. True, the Bear-Men had given them the results of their experiments, but these were far from reliable, as they had never attempted anything as stupendous as this.

That their fears were fully justified soon became evident. Ross cautiously crept near the column of live steam and boiling water and threw a stone over the brink of the shaft. Down, down it went for what seemed to be an appalling depth while he counted the seconds on the chronograph until it struck bottom. A hurried estimate revealed that the well was already more than a hundred and fifty feet deep, and still the action of the Radonite continued apparently unabated!

By this time the geyser had become a volcano. It was erupting stones, rock fragments and hot sand with mighty explosions that could be heard for miles. This thing was getting beyond control and was becoming extremely dangerous.

"Something went wrong with our experiment," Warren shouted above the noise of the explosions and the hissing of steam. "We'll have to stop it—right now. I'll try pouring Urvion on it."

And shaking off the restraining hand of his friend he fought his way through the hot gases and steam and sand to the very brink of the volcano. If it were not for his fireproof garments and helmet he would have been overcome by the fumes and burned alive. But even as it was, the terrific heat had penetrated this barrier and his body and head felt like so much boiled meat. He hastily emptied the contents of a bag of Urvion into the raging inferno and, summoning his last ounce of strength, leaped back and clear of the crater just as a terrific explosion rocked the very foundations of the universe. A large piece of rock struck the back of his head and, just before he lapsed into unconsciousness, he saw a fissure of ice opening, like huge jaws, as if to swallow this puny mortal who had dared to disturb the slumber of Nature after these thousands of years.

ROSS GRIFFIN stood for a moment spellbound by the suddenness of this cataclysm. Then he sprang forword and seizing the inert form of his friend he dragged him over the slushy, lava-pitted ice just in time to save him from plunging into that gaping hellhole. From the safety of distance he watched, fascinated by the awe-inspiring sight. For a length of at least three hundred feet the sheet of ice had been burst asunder and the unceasing action of the Radonite converted the thousands of tons of ice and rock into hissing steam and molten lava which was spewed

from the fissure and thrown high into the air.

For perhaps fifteen minutes this miniature volcano continued its eruption, then without warning it ceased. The violent steaming died down to a few wisps of white vapor; the hot lava cooled rapidly, then everything became so still that the contrast was appalling. Warren recovered from the effects of the blow and the heat exhaustion in time to see the tail-end of the strange phenomenon.

"Ross, I'm afraid to go over and look. I'm afraid that everything beneath that blanket of ice is destroyed. I should have had more sense, knowing that this was a new experiment.

Warren, despite his courage and determination, had since the disappearance of Nita become a creature of moods.

"Old man," Ross looked at his friend tenderly, "you'll have to pull yourself out of that. Here we are on the brink of success," and, pointing into the chasm, he added with a smile, "I mean literally as well as figuratively, and you take such a down-hearted view of things. Why, man, that eruption was the best thing that could have happened; it exposed the surface of the ground under the ice and all we have to do is jump down there, open the door of the safe and remove the papers."

The other man's enthusiasm had some effect upon Warren, for he shook off his lethargy and strode over to the fissure. Looking down into the abyss, he beheld the results of the mighty force of Radonite. For a distance of three hundred feet a strip of ice fifty feet wide had disappeared entirely. And to his joy he saw blocks of stone and bricks made unmistakably by the hand of man, and which proved conclusively that they were gazing at the ruins of a building erected by early earthmen. Contrary to their expectations, the action of the Radonite had not removed more than a few feet of topsoil and rock, just enough, in fact, to make it unnecessary to do very much excavating.

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CHAPTER X

ENTHUSED by their unexpected good fortune, Warren and Ross hastened to pick up their tools and slide down the side of the fissure. They dug around in the ruins joyfully, unearthing masonary, rusted machinery, broken chemical and physical apparatus, gas tanks and other pieces of equipment that indicated beyond doubt that they had found Gordon Bancroft's laboratory. Some of the more valuable items they laid aside in one place to take along with them. But they were chiefly concerned with trying to find the large steel safe that Warren knew had been used for storing the precious formulae that the scientist would not trust even to a bank-vault.

Their search came to an end when a dull metallic ring of Ross' pickaxe proclaimed that he had struck the huge steel box. Both men dug lustily, clearing the safe door of earth and stones. The task of opening the door proved to be a problem until Ross gingerly placed a minute quantity of Radonite on the combination lock and watched it melt through the hard metal as if it had been butter. Then the door swung open. Both men peeked within. There, lying in neat bundles on the steel shelves, were the note books containing the priceless formulae of Warren's famous ancestor. As he carefully thumbed through the precious documents, now yellow with age, Warren's eyes shone with a brilliance that Ross had never seen before. The results of the scientist's experiments were all neatly typed on parchment and bound in folders, each one properly labelled. So it was that Warren found with little difficulty the one for which he had braved this perilous journey, and for which he had perhaps lost the one girl who had come to mean everything in the world to him.

But strangely enough he could not feel depressed now. Here in his hands he held the key to a new era, a formula which would be a boon to mankind, and at the same time enable him to take his place among the famous scientists of the universe. Here it was; he opened it almost reverently to find a mass of figures, chemical equations and sketches that Gordon had so painstakingly evolved, but which he never had the opportunity to try on the vast scale he had intended.

They bundled up their precious cargo and returned through the tunnel to the caves. They found Drew Harv waiting for them.

"I SEE that you have found that which you sought. It is good. The Three Ancients have instructed me to summon you to their presence. Are you ready?"

The men nodded and followed Harv through one rock chamber after another. At the bottom of a steep flight of stone steps there was a massive copper door. Harv reached for a leather thong that was hung from the ceiling and pulled hard. From within came the mellow sound of a trumpet and at once the door swung open. Warren and Ross entered with something closely akin to reverence, and advanced to an elevated platform where, on chairs carved from granite and decorated with copper ornamentation, sat the Three Ancients.

Their long beards, white as new-blown snow, reached well down upon emaciated chests. Their faces were wrinkled, but their eyes looked at the two descendants from their common ancestors with the unrestrained interest of wonder-stricken children. The two visitors bowed stiffly and waited for the rulers of the Dwellers of the Caves to speak.

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"I have brought before you, Venerable Fathers, these two men, Warren Bancroft and Ross Griffin, of whom you have already been informed."

The White Beard in the centre raised his head and looked at Warren, as a father would look upon a son who brought joy to his heart. At length he spoke.

"Sons, we have followed your movements with an interest that might be considered selfish. But we too, who are descended from the glorious past civilization of our earth have felt the desire, the urge, to restore to this cold planet the glory and prestige which it once enjoyed. Your aim is a noble one, and needless to say, all the aid we can give you shall be yours.

"But enough of this sentimentalizing. I am an old man, as are my associates," and he gravely indicated with his hand the two men, one on his right and the other on his left, "and like old men, we live much in our past. It is to the future," his eyes shone with a new light of hope, "it is to the future that we must now look, with your aid, son, and with that of your loyal band of Earthmen. Now tell me, for I am eager to learn, what have you found and what are your plans."

Warren and Ross were impressed by the words and manner of the kindly old man and they related the story of their life upon Saturn, told of their preparations, the thwarting of Gurra, the landing upon earth, the long overland and oversea journey and misadventure on the plateau, when they lost Nita and X. Palmer. When Warren spoke of Nita his voice faltered for a moment, he swallowed hard and the Three Ancients nodded in sympathy.

"But it now seems that all of our work, our finding the formula for Super-Atmosphere, will be of no avail. We can not bet back to the *Earthbound*, neither can we communicate with her."

Warren could not help voicing his discouragement. While he was occupied at some work his mind was concentrated upon a single objective: to do the best he possibly could; but when the task was completed, his moods took possession of him completely.

THE Chief of the Three Ancients rose from his dais and stepped down to Warren. He put his hand reassuringly upon the younger man's shoulder and made an enigmatic promise:

"You have done well, son. Do not worry, for you shall be absolved of the murder of Professor Du Va and the members of his expedition. Then you will be free to return to Saturn, there to present your plans officially to the learned Body of Five Hundred. Also, for I know your heart is heavy, I promise that to you, unharmed, shall be returned the maiden whom you call Nita!"

When Warren heard this prophecy he jumped forward and gripped the old man by the shoulder and looked into his face incredulously. Eagerly he plied him with questions, implored him to tell him more, but the man shook his head reluctantly and asked that he be patient until the morrow when he would learn everything he wished to know at the trial.

"What under the sun did he mean by the trial?" Warren puzzled and fretted with impatience when he was alone with Ross in their chamber. But speculate as they would, the two could find no answer.

The following morning they arose early, had their meal and sat down eagerly to wait. Soon Drew Harv came to conduct them to the grand assembly chamber. The man appeared to be inwardly excited, and though he

talked quite volubly upon many subjects, he carefully avoided any mention of the one that was foremost in the minds of Warren and Ross. When they questioned him outright about the trial, he shut up like a clam and would say no more.

Deep underground through high vaulted passages they had never entered before, the two men followed their guide. Here the walls were damp with moisture and hot steam oozed through the many cracks. The luminescence on the ceiling was just sufficient to enable them to step along cautiously without stumbling. As they came around a sharp bend they heard the murmur of voices, like the sound of waves dashing incessantly upon a wide sandy beach.

THEN they beheld the Grand Assembly Chamber suffused with a red light that shone upon the whiteness of the thousands of Bear-Men who filled the immense hall, and transformed them into shaggy red haired apes of some gigantic species. Warren and Ross scrutinized their faces closely and were relieved to find that they were of the same race as were those whom they had met previously. In the centre an aisle had been left, down which they were led towards a dais upon which the Three Ancients sat as solemn as judges of the courts that were held upon earth in the twentieth century.

Warren and Ross were motioned to a bench which had been reserved for them up front.

"This is all so mysterious. The Dwellers of the Caves evidently inherited all the love for the dramatic and spectacular, that our early ancestors were said to have possessed," Ross whispered.

"Nevertheless I wish I knew what this was all about. I am somewhat out of mood with the whole thing." Suddenly Warren became excited and pointed down the aisle, "Look, Ross, see that black hooded figure. . . It can't be a Bear-Man for he does not have white fur. I could swear that his walk was familiar. . . I wonder if it could be. . . "

Ross Griffin turned to where his friend pointed, and saw a stooped figure, covered to the knees with a black sack, being led up front by two husky white haired men. As he passed the bench upon which Warren and Ross were sitting the hooded figure stumbled and gave a shrill, strangled cry of fear; his guards clutched him to keep him from falling. There was something disturbingly familiar about that cry too, Warren was sure.

A mellow blast from a trumpet, then silence. Solemnly the old patriarch, sitting stiffy erect, his long white beard cascading like a silvery waterfall over his thin chest, looked at the hooded figure, as if his vision could penetrate that black covering.

"You, who are to remain nameless for the time, have been brought before us charged with crimes. Here on earth, although you might not have known, deeds of violence are punishable by perpetual confinement in the Caves of Ice. There the life fluids are solidified and the victim lives in suspended animation. We do not take life."

When it heard this, the black hooded figure trembled as if with ague, and would have sunk to the stone floor were it not for the support of his guards. The old patriarch continued; his voice was portentous and the accusations they heard astonished Warren and Ross beyond description, but gave them a sense of relief. Now they began to see a light, to understand the enigmatic utterance of the Chief of the Three Ancients at their first meeting. The two men leaned forward on their stone

benches and listened with tense expressions.

"Can you deny," and the old patriarch pointed a stern unwavering finger at the quaking, black-cloaked figure, "that you had attempted to murder the Earthmen from Saturn, they who are named Warren Bancroft, Ross Griffin and X. Palmer? Can you deny your attempt to abduct the Saturnian girl, Nita? And have you not, in order to throw suspicion upon Warren Bancroft, murdered in cold blood the gentle Professor Ru Va and his men. Remove his hood!"

Like a field of ripening grain in a wind the movements of thousands of heads could be heard as they craned forward to see the prisoners. Although Warren and Ross had surmised what they were about to witness, they could hardly credit their senses even after the hood had been pulled up to reveal the ugly features of the fear-stricken Gurra. The coal-black face of the creature was now blanched to an ashen grey, his gnarled body trembled and he shrieked a denial wildly.

"No, no, I did not do it. It was my men. I could not control them. Tell them, Warren," he implored and fell to his knees in front of Bancroft who recoiled as from some slimy monster, "tell them it is not true—it is not true—" and the man tore at his black wooly hair and his bloodshot eyes rolled like those of a maniac.

To Warren it was not a pretty sight. While unmoved by any feeling of pity, the Earthman nevertheless felt impelled to say something that would enable the Plutonian to regain a more normal composure. He rose to his feet to address the Chief of the Ancients.

"No Warren, not now. You will be heard in due time," said the patriarch gently as he waved him to his seat. "First we must bring in another witness, one whose heart might not be as soft as yours."

And as he motioned to an attendant, another hooded figure was led up to the dais. But unlike the cowering Gurra, this man walked erect, with a pride that only an Earthman could possess.

"REMOVE his hood," the Ancient commanded tersely.

The black covering came off and there, unharmed and smiling was their mechanical expert, X. Palmer! The two men sprang from their benches and rushed forward to clasp the man's hand warmly. They excitedly asked about Nita, but before he was given an opportunity to reply the judges commanded Warren and Ross to be seated as the third hooded figure was ushered in.

This one was a slimmer person than any one of the others, walked more lightly, more gracefully. The sight of the tiny shoes that stepped forward daintily under the long black hood made Warren's heart thump wildly. Even before the attendants could take off the black covering he rushed forward eagerly, his face warm with a flush of joy, and he pulled the hood from the figure. He could never have mistaken Nita, no matter how she might have been attired. Here she was in his arms once again, radiant and happy and as lovely as ever. Her eyes glistened with tears that were past controlling; she buried her face on his shoulder and wept from sheer joy. Eagerly they whispered to one another, oblivious of the thousands who looked upon them with sympathy born of understanding.

Gently the Ancient upon the right hand throne stepped down and led them to a bench where they sat engrossed with one another. But the stern business of the trial claimed their unwilling attention. X. Palmer was on the stand.

CHAPTER XI

THE engine expert testified that when he and Nita returned to the sled, Gurra and his band crept up and blinded the surprised Warren and Ross with their ray lamps. The Plutonians had apparently been hiding near by, waiting to catch them off their guard. As Palmer and Nita watched, immobile with horror, they saw their friends swept by the searing beams of the flame knives, until they were forced over the edge of the crevasse to what appeared to be certain death. Then Nita and Palmer were surrounded by the black Plutonians. How they managed to evade their attackers they did not know to this day. But impelled by panic, they broke through the circle of demons, aided by some lusty blows from the heavy bar of metal that Palmer had snatched up, until they had nothing in front of them but the impenetrable darkness. But behind them was a howling mob of bloodthirsty Plutonians.

They fled as fast as their legs could carry them. If anything, Nita was even speedier than Palmer, and it was she who found the entrance to the passage that led to the caves of the Bear-Men. But they were far from being out of danger yet. They heard the thud of pursuing feet as the Plutonians, with a shout of triumph, plunged underground after them, their flame-knives lighting up the rock walls to incandescence.

Here the two were compelled to go slower as it was pitch dark ahead and the uneven floor was strewn with boulders and slippery with ice. From the walls sharp jagged rocks projected which cut their faces and bodies cruelly. Two of the black men caught up with them. Palmer wheeled furiously and with two well aimed blows with his bar of metal, laid them out cold. But still the mob gained and again Palmer was forced to beat off their pursuers.

Then as they ran down deeper into the tunnel, a group of strange shaggy white creatures, the Bear-Men, aroused by the tumult, rushed towards them. The Plutonians, cowardly by nature, seeing this unexpected horde of what they believed to be wild animals, turned and fled, but not before Palmer singled out Gurra who had been exhorting his men from the rear to seize the two fugitives, and hurled the metal bar straight at him. His aim was true. The bar whizzed through the air and struck the black, ugly creature full in the chest and knocked the wind out of him. The others, seeing their leader sink to the floor of the tunnel, clambered over his body in panic. They did not pause in their flight until they had regained their ship and took off for Pluto with a weird tale.

Palmer related his story modestly in a calm even voice as if he had been a spectator only instead of a heroic participant. When he finished, the assembled dwellers of the Caves waited expectantly; the accused Gurra, now even more ashen than before, was kept from collapsing through fear by his stout guards.

But there was more to come. The silence was broken by the ominous voice of the Chief of the Three Ancients:

"Gurra of Pluto, you have heard these charges. Do you dare deny them? Before you answer, think well, for we men of earth have strange and, might I say it, effective ways of extracting the truth. Now speak?"

The black man gulped. His hands writhed as if he was in agony. Then his lips moved:

"Yes, if you will have mercy, Oh, judge, I will tell you that this honorable man is right. But the blame is not on me alone. My men. . . "

"Enough!" commanded the Ancient sternly. "You stand convicted on these charges. Now we will hear from Drew Harv."

HARV walked up to the dais and bowed to the Three Ancients before beginning his story.

Two days before they had met Warren and Ross, he and his scouting party had seen a huge black shape sailing down out of the sky. Although they watched it with wide-open, wondering eyes it was lost to sight beyond the plateau above them. It had passed swiftly but their keen eyes had been able to catch a glimpse of black faces flattened against an observation window. Of course at that time they had no idea what the thing might be, but since the coming of the three Earthmen and Nita they realized that what they had looked upon, with some misgivings, was a space ship from an outer world.

Soon after, just before dusk, the stillness of the air had been rent by the most awful cries of terror and agony. Then silence, and again they beheld the space ship, but this time it was flying away. Several days later they came upon Nita and Palmer and Gurra in the tunnel and later they found Warren and Ross in the crevasse. They had purposely withheld any information regarding one another from the two groups, until they heard their stories and were able to compare them.

There was no question now in the minds of the Dwellers of the Caves that Gurra was guilty of all charges, including the murder and mutilation of the bodies of Professor Ru Va and his men. When Gurra screamed a denial of this, he was reminded of the horrors of the Caves of Ice, where even those of stout heart have been persuaded to tell the truth, whereupon he broke down and babbled an incoherent confession. He admitted that he had ordered his men to commit the horrible deed for the purpose of casting suspicion upon Bancroft and to steal the findings of the expedition.

Ross Griffin had been busily taking down Gurra's confession in Saturnian and when the man finished he handed it to him to sign. The Plutonian demurred but one of his guards grasped his upper arm in a vise-like grip until he reluctantly scrawled his signature at the bottom of the document. Then after the Three Ancients had signed as witnesses, Warren carefully folded the confession and placed it in a pocket of his jacket.

The old patriarch rose from his dais and a hush came over the multitude. Then pointing to the cringing Gurra he shouted in a voice that reverberated from the farthermost recesses of the immense cave:

"Fellow Earthmen, you have heard the testimony of our brothers and the confession of this cowardly Plutonian. My two fellow judges and myself, were we acting according to the tenets of our forefathers, would ask that, in the name of justice, death be the sentence. But our new laws are more merciful, though on Pluto I am given to understand, much cruelty is practised by those who consider themselves our superiors in civilization. Now we, your rulers, ask of you, what are your wishes?"

Like a pent-up torrent suddenly released came a cry from thousands of throats:

"The Ice Caves! The Ice Caves!"

Warren turned to look at Gurra, just as the Plutonian sank unconscious to the floor. His guards yanked him roughly to his feet and shook him back to a dazed animation.

When the tumult had died down Warren walked up to the Three Ancients and addressed them.

"It is with a feeling of gratitude that

my associates and myself appear before you now. And we desire to have it understood that we respect your judgment and that of your people. I can truthfully say that nothing would give me greater pleasure than to be left alone with that monster for a few minutes. But this planet, our earth, is destined to rise to great heights as a member of the Federation of the Universe. And what better way to begin to gain the respect of all the worlds than to abide by interstellar laws?

"You have judged wisely and I am sure that the weight of decent opinion would be behind you. But this man has an evil power on the planet Pluto and its dark sister planet beyond, called Thor. I beseech you to imprison Gurra, until he can be tried in the courts of Interstellar Justice. There, I am sure, he will be convicted as he justly deserves and be sentenced to a punishment even more rigorous than the Caves of Ice."

The Three Ancients and their followers listened gravely and respectfully to Warren's plea. There was not a single murmur of dissent when the chief, after a whispered consultation with his colleagues, agreed to the proposal. Gurra, realizing that his life had been spared, began to sputter his thanks in false, sugary tones, but Warren drew back from the creature in disgust and the man was removed from the Assembly Hall to his cell.

The days immediately following these surprising events were indeed busy ones for Warren and his companions. The only obstacle in the way of carrying out his plans was to find a means of reaching or communicating with the *Earthbound*. Working on the theory that Wass Dorn would conclude that something was amiss with the members of the sled expedition, whereupon he would attempt to navigate the ship to northern New Jersey, Warren sent Palmer up through the passage to the plateau to await the possible arrival of the ship.

A few hours later Palmer returned, his usual imperturbability displaced by excitement over finding the rocket-sled down in the valley where it had evidently been tossed by the keel of the Plutonian ship when it took off in haste. Although the sled was wrecked beyond possibility of repair, the communiograph was in an operative condition. The resourceful engine expert had tested it but did not wait to signal the *Earthbound*. Hardly pausing to hear the remainder of Palmer's story, Warren, accompanied by Nita, headed for the tunnel.

THE sled was lying on its side with the runners twisted and bent and the cabin knocked from the chassis. Warren hurriedly threw the communiograph switch and spoke into the transmitter:

"Warren Bancroft calling the *Earthbound.*"

He repeated the call again and again until his voice was hoarse. There was no answer. Then Nita relieved him and continued the effort to raise the ship.

"It's no use, Nita. Rest a while and we will try again . . ."

"Hush, Warren," she cut in, "I hear something!" and she twisted the volume dial frantically. From the loud speaker came the unmistakable booming voice of Wass Dorn:

"This is the *Earthbound,* Mr. Bancroft. We have been trying for weeks to raise you. Where are you?"

"We are at our destination but ran into trouble. Can you leave at once?"

"We are under way now; in fact we have been searching for your location for the past three days. Send out the directional beam so that we can follow it."

Warren excitedly switched off the

talking circuit and threw on the beam. Then he waited for Wass Dorn to acknowledge it. In a few minutes Dorn's voice came from the instrument:

"I just charted our position and I find that we have run past you. The *Earthbound* is now 4,700 miles to the southeast of new Jersey, or over the northwestern part of Africa. Keep the directional on and we will rise above this shell of atmosphere which would burn up the ship if we attempted any speed. We'll reach you in half an hour."

To the impatient watchers those thirty minutes seemed like hours. Warren manipulated the dial controlling the directional rays and glued his eyes to the meters.

"There she is," Nita pointed up into the sky as the graceful, metal bird swooped down out of the air with a thundering of her reverse rocket-blasts. "Tell them to land over there."

Warren shouted directions into the instrument and was gratified to see the *Earthbound* ease down, like a graceful swallow, on the plateau above them. The three left the sled and ran up the icy slope to greet the crew of their ship just as they were tumbling out of the air-lock doors, armed with wicked looking blast guns.

Wass Dorn ran toward them with wide open arms and thumped the two men on the back joyfully and would have embraced Nita had she not laughingly jumped aside. Dorn explained that when they lost contact with the sled they were not worried for a while, thinking that its communiograph apparatus had gotten out of order. But when the days lengthened into weeks and still there was no word, the crew of the *Earthbound* began to fret over the fate of their leader and his companions. It was with difficulty that Wass had been able to curb their impatience, but finally he too became worried and decided to take off and fly low over the surface of the earth with the hope of locating them.

As all the instruments required for terrestrial navigation had been taken by Warren, the ship was compelled to sail by dead reckoning and had therefore been unsuccessful. In their haste to leave Saturn they had been unable to provide more than one set of terrestrial instruments. The celestial navigation equipment was entirely unsuited for the purpose.

Warren briefly related all that had happened to them and told of his immediate plans. They would return to Saturn and lay the proposition before the Body of Five Hundred who, they felt, would in all probability aid them in the project of rehabilitating the earth.

CHAPTER XII

TWO geologists and a chemist were assigned to the task of investigating the chemical and mineral resources of the region. They sank test pits by means of Radonite as far west as the mountains of Pennsylvania. They analyzed the specimens and catalogued their findings for future use. Meanwhile Warren with the help of Nita and Ross had been engrossed in intricate calculations to determine the volume of materials required to manufacture a sufficient quantity of Super-Atmosphere to combine with the atmosphere which they would release from above the earth. These data they would lay before the Body of Five Hundred to gain support for their gigantic earth rehabilitation plans.

They reluctantly bade farewell to the Dwellers of the Caves, with the promise that they would return as soon as they were able to obtain the equipment needed for the project. Warren

tried to persuade Drew Harv to accompany them, but the man had no desire to leave his home planet.

"I'll be here to welcome you when you return," he said. "But if he had only known what fate had in store for him perhaps he would have been more willing to go.

The flight back to Saturn was uneventful. Every one was busily engaged in planning and dreaming about the future of the planet from which their ancestors had sprung. Their stay upon earth, although cold and dreary, had nevertheless exerted a nostalgic effect upon them, and they looked forward with warm anticipaton to the day when they could leave the foreign planets for good and return permanently to their own.

No sooner had the *Earthbound* come to rest outside of the Saturnian sky-city which it had left so dramatically a few months before. it was surrounded by Vigilantes who hammered upon the air-lock door for admission. Nita looked up at Warren with alarm, but he reassured her with:

"I expected it. But don't worry. With Gurra's signed confession and Gordon Bancroft's records the entire misunderstanding will be cleared away in a jiffy. It will no doubt be taken before the Crime Judge first. You return to your father and explain the whole thing to him, and I will rush right over to see you as soon as I am released."

Vic Sylvan, that hardy descendant from Norsemen, who had led the attack on the Vigilantes in Gurra's hangar, approached Warren with a determined scowl on his face, his eyes blazing with a fierce light.

"Shall we pile out and give them hell, boss? The boys are all itching for a good fight."

Warren smiled at his loyal strong-arm man and shook his head, "No, Vic, it is not necessary this time. It is only a formality and I will be back with you in a day or two. Tell the boys to save their energy for the bigger job that is waiting to be done back on earth."

Sylvan withdrew rather reluctantly. Having primed himself for a scrap with the autocratic Vigilantes, whom he had always despised, he found it hard to resist the temptation. But, like the good soldier he was, he obeyed orders.

When the door clanged open the Vigilantes waited cautiously outside. They were not taking any more chances with the wild Earthmen, one experience of an encounter not long ago was enough to teach them the inadvisability of coming too close to these courageous people. Their blast guns were leveled as Warren walked from the ship, head erect and smiling confidently.

"Warren Bancroft, I warn you to make no hostile move. You are under arrest. Come with us at once," the Chief Vigilante was very imperious in his lingsite metal uniform which flashed silver white in his pale sunlight. "Your men also will be held for a hearing."

With a wave of his hand to Nita and his companions on the *Earthbound*, Warren entered the armored ball-car with the Vigilantes and was rolled away in the direction of the city. His first appearance before the Crime Judge took on the aspect of an inquisition. He was accused of every crime on the calendar, but when he presented the confession and the micro-photographic records that revealed the use of flame-knives, then showed the volumes of data which he had found in Gordon's safe, and finally told of his plans to rehabilitate the earth, the judge became more tractable. After whispered consultations with his associates he agreed to pass the case along to the Saturnian Chamber of Science. Meanwhile Warren was confined to a

cell to await the decision of the scientists.

It was not until three days later that Warren was led before the Chamber of Science. A grave, cold body of old men, the members of the Chamber nevertheless became enthusiastic when Warren warmed up to his subject and eloquently presented his plans.

They asked him innumerable questions, many of them of an involved technical nature, which Warren answered clearly and logically. He realized that they were testing his knowledge and by watching their expressions closely he knew that he was gaining acceptance as a fellow scientist. This was what he had dreamed of for many years, the opportunity to prove that descendants of Earthmen were as capable of mastering the sciences as were the people of other planets.

But the local chamber of science was by no means the final tribunal. It was true that their endorsement could make or break many schemes, but the proposal. that Warren had advanced, was so stupendous that only the rulers of the universe, the Body of Five Hundred, could pass upon them.

So it was that the Earthman was led back to his cell, there to fret impatiently over the red tape that delayed the fulfillment of his cherished dreams. In answer to his inquiries he was told that Nita had returned to her father's home, and his men, although held under guard, were safe, pending the decision of the supreme court on planet A7-TY.

IT was with a sense of relief that he again went before the Chamber of Science. The solemn old men seemed even more grave when they handed him an official communiograph message. As he read it, Warren's eyes lit up with delight.

EXECUTIVE OFFICE OF THE BODY OF FIVE HUNDRED.
Planet A7-TY.

To the Saturnian Chamber of Science:

Greetings:

Release Bancroft and his men. Plans approved. Wait for arrival of special scientific group under the name "Earth Rehabilitators, Consolidated," who will collaborate with Bancroft and you in carrying out the project.

Signed: SVORFF KROON,
President.

Warren did not wait for any further discussion, he was on his way to Nita's house with the good news. There he found her with her father, Professor V-Si. Quite different now was the reception accorded him by the professor. No longer did that gentleman have any fear of the ugly Gurra and he was enthusiastic in his endorsement of Warren's plans.

Taking Nita by the arm, Warren dashed out of the house and jumped into a ball-taxi with Nita. They reached the *Earthbound* in a few minutes, where the found that the message of the Body of Five Hundred had preceeded them and their men had been freed from their ship-prison. Even Vic Sylvan had forgotten his animosity against the Vigilantes as he sat with them in the large mess hall, drinking the heady Kuif brew of the Saturnians.

It did not require very long for Warren Bancroft's name to be heralded far and wide throughout the universe and consequently every minute of his time was taken up by luncheons in his honor and speeches before civic and scientific bodies. He was even asked to journey to the far planets of the cosmic system, but he had to decline on the plea that his project required his constant presence on Saturn.

"This recognition that comes after

something has been accomplished irritates me. Why should I appeal to the vanity of political leaders by being exhibited as a zoological specimen when but a few months ago they despised me as an earth slave?" he complained to Nita one day when he was weary of his countless engagements. She reassured him by saying that it would not be long before they were once again on their way to their beloved earth where the Super-Atmosphere would change the nature of humanity and make life far happier.

When the "Earth Rehabilitators, Consolidated" arrived, it was a signal for a national holiday. They were escorted with all the pomp and splendor, that the ritual-loving Saturnians could devise, to the Assembly Hall of Science where Warren and his committee were waiting for them. Here, after the customary polite gestures were over with, they settled down to a detailed consideration of their problems. Committees were formed; Nita was assigned to the duties of Chief of Transportation Unit where she would be responsible for shipping men and materials to earth.

Briefly, the problem of rehabilitating the earth was twofold: the first task was to draw the atmosphere that was now rotating as a shell more than a thousand miles above the surface of the earth down to sea level, and the second was to manufacture one billion tons of Gordon Bancroft's Super-Atmosphere which would then be mixed with the oxygen and nitrogen of the air in a ratio of one part S. A. (Super Atmosphere) to one million parts regular atmosphere.

Although Warren and his men had already made conclusive laboratory tests of the processes involved and had proved to their own satisfaction the feasibility of the project, it was necessary to demonstrate the experiments for the benefit of the entire committee.

"Why not try some of the S. A. gas on a prisoner condemned to the Chamber of Purple Vapor? With the authorization of the representatives of the Body of Five Hundred we should have no difficulty in getting permission. Then they will really see what the gas can do. Now, I'm afraid, they are somewhat sceptical," Ross Griffin suggested.

The scientists agreed to the experiment, so Warren had a small room constructed of flexible glass through which the subject could be observed. The S. A. gas was available in cylinders, connections from which were piped into the chamber. The criminal, a particularly vicious specimen of an habitual murderer, was brought into the special chamber where he unwillingly submitted to having the nerve-bands of Dr. Soong's Crime Analyzer fastened to his limbs and body.

This instrument registered on a dial the intensity of the subjects criminal impulses while a series of vari-colored lamps indicated the types of crimes and his particular psychoneurosis* would prompt him to commit.

Solemnly the committee grouped themselves around the glass walled chamber and watched Warren manipulate the control board of the analyzer. He was explaining the action of the instrument as if he had been lecturing to a group of students at the university.

"YOU gentlemen are all familiar with Dr. Soong's Crime Analyzer. Its reliability has been proven over a period of two centuries. The subject is now in normal atmosphere, which as you know consists mainly of nitrogen and oxygen, and here on Saturn, almost five per cent of hydrogen, as well as traces of argon, helium, krypton and xenon.

* Psychoneurosis—*psyche* means the mind and *neurosis* stands for nervousness, therefore psychoneurosis means illness of the mind or a mental disease. The theory that crime is the result of mental derangement was prevalent throughout the universe at the time.

The atmosphere of the earth before the cataclysm contained the same elements except that the amount of hydrogen was infinitesimal.

"Now notice the readings of the intensity dial. This man has a crime index of 173.3, which is extremely high. The normal adult registers 7.5. I will throw the psycho-indicator. See the murder impulse lamp start into illumination. And the three other lamps also. A bad case, gentlemen.

"I will turn this valve. It admits Gordon Bancroft's Super-Atmosphere in the correct proportion. Notice how the color is changing to a reddish tinge inside. Now watch the dial."

As the scientists eagerly craned their necks towards the control board, they saw with astonishment the needle on the meter drop back slowly from the 173.3 mark until the reading was normal; the four lights grew dim and were extinguished. The man within the chamber stirred in his chair, the scowl on his face was replaced by a smile and the harsh lines became soft and gentle.

"Remarkable! Incredible!" chorused the scientists with enthusiasm.

Then Warren explained that the day before he had subjected to Super-Atmosphere a man who was about to die from the dread pulmonaritis, a disease prevalent upon Saturn because of the excessive amount of moisture in the air. Within ten minutes the man was breathing normally and within a half an hour he was on his feet!

"In order for the effect to be permanent, however, it is necessary to continue to live in the Super-Atmosphere. This man, if returned to normal air will within a few days regain all of his criminal tendencies. That is why I want to change the earth's atmosphere and use that planet as a huge laboratory, after which all the habitable planets of the entire universe may have their air charged with the Super-Atmosphere gas," Warren explained.

CHAPTER XIII

WHEN news of the wonderful power of this gas became known, the laboratories were besieged by thousands of people. They came from near and far, thinking to avail themselves of the curative powers of this substance. At first Warren and Ross explained patiently that the effects were not permanent, unless they were to live continuously in an atmosphere charged with it. But later the mob became unruly in their demands and insisted upon what they called their rights.

It was during one of these demonstrations that Wass Dorn rushed into Warren's office, breathless from running.

"Mr. Bancroft, there is a big black Plutonian outside inciting those people. He is down there making speeches and calling for violent action if their demands are refused. An evil looking creature, Dakku, they call him."

"Dakku?" Nita asked with a sharp intake of her breath.

Warren looked at her quickly. "Why, do you know him?"

"Yes. He is Gurra's brother. Oh Warren, don't go down there now," she implored as she saw that he was putting on his coat. "I'm afraid that those Plutonian murderers are just waiting for a chance to take you unaware."

Even as she spoke a startling thing happened. They had walked to the broad window of the laboratory, which commanded the street, to watch the mob outside attempting to push past the perspiring Vigilantes. Wass Dorn's sharp eyes pierced through the crowd to where Dakku was wildly waving his arms to a feverish group around him. When he saw Warren at the window he raised his arm quickly and pointed right

at him. Well it was that Wass Dorn suspiciously searched the dark alley behind the fanatic Plutonian. He saw an intensive flash of concentrated red light and at once hurled the surprised Warren and Nita to the floor, where he himself dropped as he shouted:

"Stay down. A flame-knife."

And as the three glanced up apprehensively at the window above them, they saw the glass and the metal casement grow white hot as the flame bit through and converted the solid substance into a hot, gaseous vapor. There was a tumult outside: the shouting of many voices and the rushing of feet as the Vigilantes, seeing what had happened, drove the crowd relentlessly before them. But the Plutonians had escaped in the confusion and hurriedly took off in their waiting space-ship.

The three rose from the floor. Warren was red with anger as was Dorn, but Nita's beautiful face had become as pale as death. Not for herself she feared, but for Warren. Her voice was far from steady when she said sternly,

"You must never take such chances again. I had a premonition that something was about to happen," then she looked at him tenderly, "You will need a body guard from now on. Not every one appreciates the fine work you are doing."

Warren nodded his head but said nothing. He was already engrossed in the problem of building the new electronic ionization apparatus for use on the earth.

But in those busy days that followed, while the Earthmen and the Earth Rehabilitation Commission labored incessantly to prepare for their work on earth, the political haze became thicker. They first heard about it when the Tycoon of Pluto, Jeriil, issued a manifesto, threatening to withdraw from the Federation of the Universe, unless Gurra was released and Warren tried in their courts. The huge dark planet Thor, one billion miles beyond Pluto allied itself with its sister planet and defied the Federation.

While all of this bickering was going on, the scientists completed their stupendous task. Huge machines, disassembled for shipment, were loaded on five large space ships at the disposal of the "E. R., Cons;" delicate instruments and laboratory apparatus were carefully packed and a group of mechanics were recruited.

Nita was too busy with her duties to think very much of the dangers they might have to face. It was her job to make certain that the entire personnel going on the expedition was absolutely loyal. She studied their records on file at the Central Personnel Bureau which were communiographed to her from planet A7-TY, and made personal inquiries through reliable channels.

The morning of the start of the expedition dawned grey and misty, but the sombre mood of the sky could not daunt the five hundred men and women who were about to embark upon a venture more stupendous than any yet undertaken by the super-civilized universe. Their mission was epoch making; if it succeeded it was to mark a new day in the history of man. For the first time since the worlds had been evolved from nebulae, science was about to remold the very nature of the human being. Not through mental development was this metamorphosis made possible of that intangible thing, called the soul. Unfortunately the material progress of mankind had leaped far ahead of the mental and spiritual. Men still lied and cheated and murdered one another, though they had spanned the gulf between worlds and had constructed marvels of metals and evolved miracles from matter.

Gayly and with a holiday atmosphere the five hundred filed through the doors of the five space ships that were resting on inclined ways at the main landing-field of the sky-city. Warren with Nita by his side stood on a raised platform in the centre of the field and proudly watched the embarkation. He was supreme in command; upon his executive skill would depend the success of the venture. He must not fail them.

"They are giving the 'ready' signal, Warren," Nita cried.

The commander of the expedition touched a button and the shrill whir of a siren rent the air. The air-lock doors of the four space ships clanked shut. After one sweeping glance that assured them that everything was in readiness the two descended from the platform and walked rapidly toward their flagship, the new *Earthbound*. Gurra's ship had been returned to its hangar, to be claimed by its owner or heirs, following his trial.

In the control room with Ross and Palmer, Warren at once switched on the communiograph:

"All ready. We will take off first; ship No. 1 is to go next, followed by numbers two, three and four at half minute intervals. Keep in constant touch with the *Earthbound;* and turning to Palmer he said quietly, "Let her go."

The rockets roared out their fiery blast and they were on their way to their home planet once again. One by one the other ships rose swiftly and majestically and set their courses after the fast receding flagship.

Ross Griffin had perfected navigation instruments that would enable them to determine their impending position on the earth with absolute accuracy, as soon as they came within five hundred miles of the planet's surface. Thus they were able to land on the plateau in northern New Jersey, where they were to establish their headquarters.

TO the new members of the expedition the frozen landscape must have presented a bleak aspect. But they were uncomplaining although the bitter cold penetrated the heated suits and chilled the blood of those who had come from the torrid planets. As soon as he stepped from his flagship, Warren hastened to the mouth of the tunnel to notify his friends the Bear-Men of his return.

Down in the caves a chaotic condition met his eyes. Fragments of rock littered the floors of the deserted chambers, pungent vapors steamed unchecked from large fissures, copper implements and other furnishings were strewn about and were battered and broken. With a sinking heart Warren ran from cave to cave. The luminescent material with which the ceilings had been painted now emitted but a feeble glow, hardly enough to guide his footsteps so he had to flash on his illuminator.

In the dining hall where Warren and Ross had sat down to their first bite of food after hours of wandering at the bottom of the crevasse, he stumbled over something soft and yielding. He recoiled in horror. It was the headless body of a Bear-Man!

He nerved himself to bend down and examine it more closely. The neck was seared like the cuts on the bodies of Professor Ru Va and his men. There was no doubt in his mind, this man too, had been beheaded by the use of a Plutonian flame-knife!

Then he found more bodies, some fifty in all. Although almost nauseated by his gruesome task, he forced himself to examine every one of them in the hope of finding any who might through some miracle be alive. It was a good thing that he did for near the pas-

sageway that led outside to the crevasse he stumbled over a Bear-Man lying face down. Warren bent over; he found the head firmly fixed and the body still warm.

Hurriedly he turned him over and peered into his face. It was the Chief of the Three Ancients! Pressing his ear against the man's chest he heard the faint beatings of his heart. Somehow the old man had escaped the slaughter for there was no sign of a wound on him. He had apparently struggled to leave the cave and had been overcome by the fumes of sulphur dioxide, but fortunately he had been able to crawl to where the fresh air had reached him and kept a spark of life in his old body.

Warren picked him up carefully and carried him out through the passageway to the bottom of the crevasse. Although he administered artificial respiration he was unable to revive him. Then he thought of the healing power of his Super-Atmosphere gas. Quickly throwing the old man's bony body over his shoulder, Warren staggered up through the dark passage until he reached the exit on the plateau. He was thoroughly exhausted and was compelled to lay his burden down. To signal to his men he fired a blast from his gun and was relieved when he saw them hurrying to his aid.

"Here, take this man back to my ship. Never mind staring at him, it is the Chief of the Bear-Men," he said sharply. "The others are down below there dead, murdered."

Back on the ship they rushed the Bear-Man into a small gas-tight cabin where Warren turned on a tank of Super-Atmosphere gas and carefully watched his instruments, while the substance hissed from the nozzle. For many minutes the white-haired old man lay still, then slowly his chest began to rise and fall as the life-giving gas was forced into his lungs.

He stirred restlessly, and groaned. Then his eyelids began to flicker. Warren and his companions watched with sympathy the old man's struggle for life. But the potency of Super-Atmosphere was again demonstrated. As Warren bent down, to better understand the old man's low mutterings, he heard him repeat over and over again the words, "Council chamber, council chamber . . . go . . ."

"Do you mean there is someone in the main council chamber who may still be alive?" Warren asked incredulously.

The Chief of the Three Ancients nodded in affirmation and began talking in a feeble voice:

"Yes, some of my people . . . trapped down there . . . perhaps they are alive . . . please go . . ." and his voice trailed off into incoherent mutterings.

CHAPTER XIV

GIVING some hasty orders for the care of the old man, Warren called Ross and Palmer, and with a group of mechanics they hurried to the caves. The beams of the powerful rhomium illuminator lit up the ghastly scene in the cave where the slaughtered men lay. The group breathed sighs of relief when Warren passed swiftly on and led them down through the passage to the main council chamber. As they expected, the entrance to this cave had been blocked by a veritable landslide of solid rock.

"Stand back, everyone," Warren commanded. "Now, Palmer, aim the fireball gun at this spot," he tapped a place that sounded more vulnerable than any other, then stepping back out of danger he cried, "Let it go!"

Palmer turned a dial on the gun and clicked a lever. The white glare of

the rhomiums changed to blood red instantly as the ball of fire left the gun. No larger than an orange at first, the projectile sped toward the rock, expanding in size, until it measured fully six feet in diameter. The intense heat from it made the place almost unbearable and the men, although they were fifty feet away, suffered in spite of the protection offered by their insulating suits and helmets. When the fire-ball struck the rock there was a shower of sparks; the solid granite began to flow like water, and the viscous fluid changed into vapor as the temperature of the ball increased beyond white heat.

Warren was watching closely through the indicatroscope by means of which the effect of the fire ball and the depth of its penetration could be measured.

"That's enough, Palmer," he shouted, "Turn on the neutralizer."

As X. Palmer rapidly pulled levers and turned dials on the fire-ball gun, the white glow of the projectile changed to yellow, then to red, and in a few more seconds it disappeared entirely. Now they could see what had been accomplished; a circular hole, almost eight feet in diameter, had been melted through the wall of hard rock.

"They are moving in there! They are alive," the men shouted triumphantly.

"The rock over there is still red hot. I hope that they don't try to rush out yet," Ross said anxiously.

"I'll warn them against it," Warren replied and rushed in, as close to the breach as he dared. He shouted through the opening for them to be patient for a few more minutes.

It was a pitful sight to see these people, their white fur streaked and gray and molted, their flesh wasted and drawn tightly upon their bones, with sunken cheeks and hollow eyes, stagger unsteadily through the opening. And there were many who did not come out, for the foul air and starvation had taken toll of hundreds.

It was a task of the first magnitude to attend to those still alive, to feed them and build them up from living skeletons to strong healthy individuals. Warren assigned Nita to this work, where her sympathetic understanding and her efficient management endeared her in the hearts of these inhabitants of the earth. After two weeks of good food and regular treatments with Super-Atmosphere gas they had regained their strength and morale and were able to resume their work at the point where they had been interrupted. But they could never forget the loss of their friends and members of their families, and never forget the black devils who had brought all this suffering upon them.

The Chief of the Three Ancients, when he was fully recovered, told a gruesome story. One day, when the majority of the Bear-Men were attending a religious ceremony in the main council chamber, a horde of Plutonians suddenly swarmed down into the caves, dealing death with their terrible flame-knives to all who stood in their way. When they had murdered everyone whom they found in the upper caves, they blasted the rocks above the entrance of the Council Chamber, sealing it up and leaving the thousands within to a slow lingering death from starvation and suffocation. Then they released Gurra and flew off to Pluto.

"With Gurra stirring up mischief we are hound to be in for trouble," Warren remarked to his department heads who met to discuss the plans of procedure. "From now on we will have to post guards and watch the skies carefully for any strange ships."

But in the busy days that followed, Gurra and his associates were forgotten by all but those appointed for sentry duty. Sheets of Zistite were unloaded

and soon three huge laboratory buildings were ready to house the equipment. It was necessary to make the buildings airtight and insulate them, so that the men could work inside without having to wear breathing helmets and heated suits. Thanks to the wonderful properties of this metal, it was possible to gain the non-conducting advantage of cork walls ten feet thick by using thin sheets of Zistite, so that artificial air could be maintained at an even temperature within.

When all the equipment had been brought inside, the air-lock doors were installed, the conditioned air was turned on and the scientists began their real task of manufacturing the immense volume of Super-Atmosphere that would be needed to supply the planet.

In one corner of a laboratory building Warren located his office. It was scantily furnished. The walls were covered with charts on which he recorded the progress of the work; there were meters to show him the temperature of the various strata of atmosphere, the pressure of the air, and the volume of gases passed out through the huge pipes after the Super-Atmosphere had been mixed in the right proportion with the oxygen and nitrogen of the air.

Warren was sitting at his desk making some involved calculations. He turned to his communiograph operator and said:

"Harry, ask all my department heads to come into the office at once."

"Yes, sir," the man answered as he switched on the short range system and called all stations.

Within a few minutes Nita, Ross, X. Palmer, Wass Dorn and ten scientists of the "Earth Rehabilitators Commission" filed into the room and sat down around the conference table. Then Warren began to outline the work remaining to be done.

"All equipment in the laboratories has been set up and tested. We are now ready to manufacture one billion tons of Super-Atmosphere by means of Gordon Bancroft's process. Thanks to your ingenuity you have developed apparatus that will enable us to do this job in a little less than one earth year. Under the original plans it would have been the task of a life time.

"As you know, Gordonium, the new gas in Super-Atmosphere is manufactured by breaking down the atomic structure of oxygen by means of 'Q' rays generated by our apparatus. The wave-energy is sent into the atom which causes the electrons to be transferred from one quantum orbit to another. After this process the electrons and protons are synthesized again and we have a new element which we have named Gordonium. Before it can be breathed by men and animals it must be combined in a ratio of one part Gordonium to one million parts of the gas mixture we call air.

"Now the other part of this stupendous task of rehabilitating the earth is to restore or bring down its original atmosphere which is of course necessary as it will still constitute the largest part of the air that we breathe. You recall that when the earth's atmosphere was drawn away from the surface of the planet it was transformed into millions of tiny, gaseous satellites which revolve around the globe like a hollow sphere, totally encasing us.

"We are going up there in four space ships, to break up those satellites and bring those billions of tons of air down here where it will do some good!"

Although all his listeners knew in what manner all this was to be accomplished, still they were electrified by the images conjured in their minds by Warren's words.

After pausing for a moment he con-

tinued his recapitulation of the plans.

"Space ships Nos. 1, 2, 3 and 4 are equipped with electrical generators and special apparatus for charging the electrons of the oxygen and nitrogen atoms with positive instead of negative electricity, or in other words ionize them. Then by setting up plates here on the surface which we will charge with negative electricity the atoms (now unbalanced by the strong positive charge) will be drawn down by the attraction of the plates.

"As these atoms drop below the energizing rays sent out by your ships they will lose the positive charges from their electrons, but by that time they will have come within the gravitational influence of the earth, upon which they will settle by their own weight. Thus the normal atmosphere will be restored to earth, while a part of the oxygen will be converted into Gordonium as I mentioned before.

"Now we come down to the real purpose of this conference, which is to select the personnel to go aloft and those who are to remain."

All members of the group drew up their chairs more closely to the long table and began selecting the men. Warren was to remain at the laboratories with two hundred people, while each of the four ships were to go up manned by seventy-five technicians. Ross Griffin was to have general charge of the air forces, using No. 1 as his flagship. The *Earthbound* was to remain on the ground for emergency use.

CHAPTER XV

THE following morning the quietness of the air on the bleak plateau was rent by the thunder of rocket tubes as the four large space ships rose simultaneously and whisked out of sight. Warren and Nita watched the silver-grey shapes on the televisor screen. They rose steadily until they reached the atmosphere shell, where they shut off the propulsion motors and remained suspended.

The communiograph signal in the ground station began to hum. Ross Griffin's voice issued:

"Are we in position, Warren? It looks good to us up here."

Warren energized the direction indicator and read the dial.

"Your height is correct, but you are about one hundred and fifty miles east of us. Follow this guiding beam and I will lead you to your position."

There was a sharp whirring sound as the guiding beam generator was turned on. As Warren slowly swung the beam in the proper direction, he and Nita watched the four ships move across the screen as they followed the guiding ray.

"All right, Ross, anchor there. We are ready with our negative plates down here. How soon will you begin ionization?"

"Within an hour. I'll call you then."

When Ross called again fifty minutes later it was dark outside. The fitful light of the sun had waned and the landscape changed from icy grey to impenetrable black. Warren glanced at the meters on the switchboard in front of him and then pressed a series of buttons which threw in the remote control switches for starting the machinery. From the farthermost building which housed the heavy generators, there came a low rumble as the machinery began to turn. Then, as the automatic rheostats operated to cut out the resistances, the generators revolved faster until the solid ground of ice under them vibrated in synchronism.

Nita was standing beside Warren, watching the needle on the voltmeter

swing rapidly upward over the dial.

"Ninety billion volts! Why, that's more powerful than a bolt of lightning."

"Yes, and it is far more dangerous unless carefully handled. We must make sure that there is no one within the enclosure."

Warren referred to the fenced-in area within which the huge copper plates that were to transmit the negative charges from the generators had been installed. These plates rested on high tension insulators, with a special insulating blanket between them and the ground.

Warren called all parts of the laboratory and the grounds and did not connect the high potential energy until he was assured that every one was well out of range.

"Watch through the window, Nita," he commanded tersely as he snapped the last switch.

At first everything was pitch dark outside. Then suddenly it seemed that pent-up lightning of a thousand centuries broke loose. From the sheets of copper a mile away streaks of electrical fire flashed up to the heavens. The whirring of the generators was drowned out by a crescendo of thunder. The whole world seemed to belch forth flames and roar as if in an agony of torture. The yellow tongues of fire whipped around the laboratory buildings, charging the hair on every one's head until they resembled human bristle brushes.

Nita grasped Warren's hand tremulously, only to be reassured by his firm grip.

"We expected something like this, but to tell the truth our imaginations were unequal to the task of picturing all these fireworks . . . Hello, what's that?" he asked as an excited voice came from the speaker of the long-range communiograph.

"WARREN, Warren, ship number three is falling! Stop her! Shut off the generators." It was Ross Griffin. "She's caught in a whirlpool of force rays and can't get free."

Warren's heart skipped a beat as he whirled toward the televisor. He tuned the instrument frantically. There on the luminescent screen were three space ships suspended majestically in the air, while the fourth was spinning end on end headlong for the earth. The chief of the "Earth Rehabilitators, Cons." stood looking at the impending catastrophe as if he were rooted to the spot. Then, tearing himself away from the terrible fascination of the picture, he leaped for the switches to disconnect the energy from the copper plates.

"Ship number three, this is Bancroft calling. The atomic attraction has been disconnected on earth. Fire a heavy blast from your stern rocket tubes and head her up again," he shouted into the transmitter and found his eyes irresistibly drawn to the plunging ship upon the screen.

"What if they didn't hear you, Warren?" the girl asked tremulously. "Is there no other way to stop them?"

"I'm afraid not . . . Look, look! They heard me—there go the rocket blasts . . . Now she has stopped spinning—they shoot upward, on an even keel. Here, let me follow them. Yes, thank God, they are under control."

Warren was frantically turning the focusing dial of the instrument in his effort to keep the fast-moving ship in the field of vision. Then from the receiver came the welcome sound of Wass Dorn's voice, somewhat shaky, yet relieved:

"Space ship number three, Mr. Ban-

croft. We followed your orders and have rocketed to safety."

"Wass, my heart just couldn't stand another strain like that. Tell me how it happened."

"The Chief Technician reports that the quartz tube of the ionization apparatus burned out, and before he could replace it we were caught helpless and unshielded between the rays from the other ships and the ground station. It was terrible up here for a while; our insides are still floating around trying to regain their equilibrium. How can we avoid having such a thing happen again?" he asked.

Warren did not answer at once. He pulled out a drawer of his file cabinet and extracted a blue print. The drawing showed the maze of wiring and the many pieces of complicated apparatus which went to make up the involved ionization circuits installed on board of the space ships. He studied the drawing for a while and finally took a red pencil and drew some lines on it.

"Hello, Wass. I want to get Ross in on this, too."

Ross answered, whereupon Warren outlined to them the wiring changes that had to be made in order to provide for cutting a spare quartz tube into the circuit automatically in the event of the first one failing. He placed the blue print in the field of the televisor transmitter and pointed out the necessary modifications.

The work of adding the emergency circuit took the remainder of the night, and it was not until the next morning that the ionization could again be started. In the gray daylight the electrical pyrotechnics that took place when the copper plates were energized did not seem so weird, but the thunder reverberated just as loudly and rumbled through the frozen world.

IT required a full month before all of the difficulties were ironed out and the work of pulling the earth's atmosphere down to the surface could be completed, as well as the more gigantic task of manufacturing the vast quantities of Gordonium, could be placed on a full production basis.

During those busy weeks, when nerves were on an edge, when the great experiment seemed doomed to failure a hundred times for one reason after another, Warren and Nita had but little time for each other. For days they did not even meet. But personal inclination could not be allowed to interfere with pushing along the epoch-making task that the "Earth Rehabilitators" had set themselves to accomplish.

But now that the work was running along smoothly, they took long walks over the icy terrain, encumbered as they were by their clumsy garments and ridiculous helmets. As yet the effects of the thousands of tons of new atmosphere that had been added to the rarefied air near the surface of the earth could not be felt, but the delicate instruments in Bancroft's office had registered the changes positively.

For example, the average temperature for that time of the year had been raised four degrees. This was a most welcome sign, for it indicated that the feeble rays of the sun were warming the more densely packed particles of air. It was only a question of time before the great ice sheet, hundreds and even thousands of feet thick, would begin to melt. Only a question of time before man would be benefited by the wonderful effects produced by living with Super-Atmosphere.

So thought Warren and Nita when they were alone and had time for those dreams which lovers dream, as they sit looking into space with misty eyes.

The watch detail had been constantly alert for any signs of a hostile fleet. They searched the skies carefully through the televisor and listened intently to catch any strata messages. But there was no sign of Gurra. Information from Saturn and other planets of the system disclosed no hint that any movement was on foot that might endanger the "Earth Rehabilitators." One thing, however, was significant and ominous: there was never a message from Pluto or from her dark sister planet Thor. While the inhabited worlds of the solar systems were keenly interested in the progress of the work on earth, these two planets had shown by their silence their sullen resentment against Warren.

CHAPTER XVI

SIX months went by. Steadily night and day the four space ships above continued sending down oxygen and nitrogen and the laboratories poured out thousands of tons of the Super-Atmosphere mixture. For a long time the results were not detectable except by means of the accurate instruments in Warren's office. Then gradually the disc of the sun could be clearly defined and blood-red through the haze of the upper atmosphere as the intervening gaseous satellites were being thinned out. The temperature rose slowly but surely, and with the coming of the summer season to this region the surface of the solid ice became slushly, and little rivulets began to trickle down from the plateau. The laboratory buildings settled lower as the ice melted under their foundations.

Warren made several observation trips in the *Earthbound* and found that the ice had disappeared almost completely in the regions around the equator. He even detected patches of green where seeds of vegetation, long dormant, had taken root and were sprouting. But search as he would through the magnivisor, he could find no trace of living creatures. From all indications the Bear Men of northern New Jersey were the only members of the animal kingdom who had been able to survive the thousands of years of ice age.

So gradually that it hardly was noticeable, the color of the sunlight, as it illuminated the gaseous particles of the atmosphere, changed from grey and white to a rose-tinted hue. This was the color value imparted by Gordonium, the new element in the atmosphere. Viewed through this filter of tinted air, the colors of all familiar objects were modified. The Bear-Men were the first to notice this. When the air had become dense enough for them to breathe it freely up on the plateau, they swarmed out of their caves to behold the wonders of the new world. They rubbed their eyes and looked bewildered. When Warren tried to explain the reason for this phenomenon they nodded their heads as if they understood but still were confused.

It was Ross Griffin who first picked up the cryptic message. He was listening to the long-range communiograph in the control room of ship No. 1, when out of the air came these portentous words:

"Thor fleet ready to proceed. Signal for start . . . "

The remainder of the message was lost in garbled, unintelligible syllables. Evidently the sender of the message had just discovered that the speech inverter[1] had not been cut into the circuit and he hurriedly connected it. Ross

[1] A secrecy device which by suitable modulation and filtering processes, inverts the entire speech frequency band which turns the bass into treble and the treble into bass. The result is to make any language sound like some outlandish foreign tongue. A second inversion at the receiving end puts it back into its original form.

snapped on the secrecy translator and twisted a series of dials, but could not unscramble the message until its very end. But the single phrase he heard was significant and bore out his suspicion as, into the control room, in the screeching dialect of the inhabitants of Thor came the ominous words:

" . . . to Earth!"

Immediately he flashed Warren.

"Hello, Warren, this is Ross. I just intercepted a message between Thor and Pluto. I got the first part, but they scrambled the rest and I could not decipher it until the end. Warren, what we have feared all these months is about to happen; they are launching a fleet against us."

It was a lucky thing that you were listening in, Warren replied. "We had just relieved operators down here and disconnected the long-range set for a moment. I'll get in touch with Saturn at once and find out what they know about it. I'll call you back. Meanwhile instruct all ships to listen closely for any other messages."

Warren called Saturn personally. He did not want his operator to leave his post for an instant. But his office there could tell him nothing. They had been in constant communication with all planets, including headquarters on planet A7-TY, but if any preparations had been made on Pluto and Thor the secret had been well kept. It was true that diplomatic relations between those two planets and the remainder of the inhabitable worlds were strained, but even now the Body of Five Hundred was negotiating to relieve the tension.

THERE came a day when the last of the ice had melted and the water trickled down into the gorge where the Bear-Men had their caves. Soon the rivulet at the bottom of the crevasse became a raging torrent and the white-furred Earthmen were forced to abandon their underground dwellings. This they were glad to do after they discovered the joys of living in the sunlight. With the help of the expedition members they began to erect little cottages from field stones that had been worn smooth by the action of the ice. Down in the valley they plowed the good rich loam with tractors that Warren had brought, and the first crop was planted upon the restored land.

It seemed perfectly normal to everyone that anger no longer swelled in the breasts of men nor did their eyes shine with the fire of hate. There was born a new happiness on all faces, a love for one another that was genuine and devoid of hypocrisy. Warren's dream of a new age was being fulfilled—a dream born in the mind of his great ancestor Gordon—rejuvenated after having lain in a sepulchre of ice these many centuries.

Walking abroad in the land Warren and Nita were happy. Even the menace of an invasion seemed remote and almost impossible in the new scheme of things. To them it was the Renaissance, the beginning of an era from which time would be reckoned in the future. Thus men walked upon earth, each engrossed in his dreams, seeing new things, thinking new thoughts, and they found that life was good.

The work of rehabilitation went on. The ships operated their ionization apparatus and the laboratory maintained its scheduled output of Super-Atmosphere. For a time there was some little excitement when four huge space ships bringing a thousand new settlers hove into view. These people were sent to other regions of the earth to begin colonizing there.

Warren and Nita watched with interest the transformation that took

place when these newcomers stepped out into the rose-tinted air of the planet that was to be their home in the real sense of the word. Petty grievances which they had intended to air immediately upon landing were somehow forgotten. They looked at one another with a strange, questioning light in their eyes, and, as the good air coursed through their lungs and affected their blood stream, a new understanding was born within them.

Exactly eleven months after they had begun the task of restoring the earth's atmosphere came word from Mars that a large fleet of strange ships had been picked up in their spectravisor. As the televisor revealed nothing, the Martians concluded that the ships were painted with a substance so that they could not be detected or seen by means of ordinary vision rays.

Warren was down in the valley supervising the erection of a power plant when he was called to the communiograph.

"A message from Mars for you, Mr. Bancroft," the operator informed him. "They picked up the radiation from a large fleet of ships headed for earth. They counted thirty-two of them."

Warren left the power plant at once and hurried back to his laboratory. He called up the four space ships aloft, and had a long conversation with their captains. At first he thought of summoning them to land at once and utilize the elaborate defensive system that they had devised, but suddenly a more spectacular plan struck him and he uttered a shout of triumph.

"I've got it! Stay up there. Here's what we'll do." And in short, staccato words he gave the others the details of the daring new plan, leaving them with the parting injunction:

"Now it's up to you fellows. It seems to be our only chance. It's either that, or . . . " And he left the words unfinished, but they knew full well what he meant.

No sooner had he finished speaking to the ships than he summoned all his department heads from the laboratories. Hurriedly he gave them curt orders and then personally inspected the apparatus he planned to use, looked over the rhomium illuminators, tested the fire-ball guns and did a thousand and one things to make sure that the new inhabitants of earth would be ready to defend themselves against the black hordes of Pluto and Thor.

But as he went about the task of preparing for war he felt strangely peaceful. He was surprised to find that he did not feel the old bitterness against his enemies that had in the past driven him into an uncontrollable rage. Indeed, now there was a smile upon his lips; he whistled snatches from merry tunes. Somehow the menace was unreal; to him it was something that would be dissipated without bloodshed or even ill-feeling.

When all was in readiness he waited. Reports were sent to him every few minutes, but as yet the fleet had not been sighted. Warren suspected that they would have to rely upon the naked eye to see the ships, as they did not possess a spectravisor—an instrument developed in that period. It was similar to a spectroscope in its action, by means of which an object emitting atomic light rays could be detected at great distances.

The communiograph buzzed with the calling signal from space ship No. 1.

"Yes, Ross," Warren acknowledged.

"A fleet of ships has just hove into sight."

"How many are there?"

"I can't see them all yet, but we've counted twenty-two so far, and there are others coming up faster than we

can keep track of them. Now they have surrounded us. Shall we let them have it?" Ross was getting impatient.

"Wait; not yet. I want to warn them first."

WARREN switched off the secrecy device and spoke to the invisible fleet far above him:

"This is Bancroft, representing the Body of Five Hundred on planet earth. What is your purpose?"

Down in the laboratory a group of scientists and technicians listened tensely for an answer. But the grim fleet was silent. Either they had not heard or had chosen to ignore Warren's challenge. Again he queried them, but still no reply. Then he heard the voice of Ross, trembling with suppressed anger.

"The devils! They have shot a fire-ball at us . . " And the message ended abruptly.

On the televisor screen the watching group saw a ball of red fire spurt from an invisible gun on an invisible ship and head straight for ship No. 1. They clenched their fists and breathlessly watched while the attacked ship did an astonishing thing. Ross suddenly released the vessel from its immobility by firing a heavy blast from the rocket tubes. The vessel spurted forward like a stricken deer, not an instant too soon, as the fire-ball sailed harmlessly by the very spot where the ship had been a split second before. In the laboratory sighs of relief punctuated the tense silence.

"Ross, thank God you escaped," Warren said fervently. "Now give them hell, boys! You haven't a moment to lose."

He shouted the last part of this command, for he had already rushed to the switchboard and pushed a series of buttons to throw the full force of the powerful generators into the negative plates outside.

Nita, true soldier that she was, stood tensely at the switchboard and operated the control handles, as Warren directed, until the meters registered a potential not far below the safety limits of the high-tension insulators.

"Do you think that they will break down?" she asked anxiously, peering out of the window as the flaming arc from the copper plates leaped skyward, higher than it had ever done before.

CHAPTER XVII

UP in the space ships, the men in the control-rooms worked silently and grimly. Here the effects of the Super-Atmosphere had not been felt, and in the heart of every man was the unholy desire to dash this fleet of invaders to the ground and crush to a bloody pulp the black, ugly bodies of their attackers.

Warren had conceived the idea of defending his ships and laboratories by utilizing the very force that had almost resulted in catastrophe to space ship No. 3 when the ionization was first begun. He reasoned that if the ionization of the atoms in an element like oxygen could cause those atoms to be attracted to the plates on the ground, then the atoms composing the hull of a ship could likewise be energized in the same manner. This was what had actually happened when the quartz tube in the apparatus on No. 3 burned out and left the ship without its protective neutralizing forces.

As Ross gave the command to step-up the energy, he grimly watched the huge fleet of ships now visible through the observation window. Previous to this the Plutonians had been maneuvering to get into position to annihilate the ridiculously small force of defend-

ers. Now, when without warning the ionization rays were released, their ships were instantly frozen into immobility. Ross caught a glimpse of black faces, with frightened, protruding eyes, pushed against the windows, and then black mouths opened to shriek with fear as thirty-two ships plunged helplessly, out of control, straight for the surface of the earth! The speed of the falling vessels was tremendous; in a few seconds they would come within the pull of gravity and crash to the ground.

"Here they come, Warren, tumbling down a mile a second!" Ross shouted joyously.

"Shut off the positive charge," Warren commanded. "I'm going to ease them down gently."

"What? Have they gone mad?" Ross shouted incredulously to his friend. "Man, man, they'll pour out of the ships and just eat you up," he remonstrated.

But Warren only looked about in his laboratory at the group and smiled. They all nodded with understanding.

"Ross has forgotten that we have nothing to fear. He has forgotten that we have an infallible ally in Super-Atmosphere, that wonderful substance which will change the nature of man, erase his vicious tendencies. Look! There they are!" he cried.

LOOKING out of the window they saw them, the giant fleet of Plutonian ships. Out of the sky they came, black and portentous. So close together were they in the air that upon striking the ground they landed on top of one another as if they had been tossed into a pile by some mighty hand.

Then the watching group in the laboratory saw the air-lock doors opening. Was Warren correct in his assumption? Could Super-Atmosphere effect the same changes upon all men, or were there some whose warlike, greedy nature would defy the influence of this substance. Warren was confident; the others, if they felt the least bit doubtful, did not voice their feelings. They merely watched.

Out of the door of the nearest ship they saw the black men tumble and mass around their vessel until hundreds had emerged. They came armed but had discarded their breathing helmets after seeing the Earthmen standing outside without that equipment. Intently the group in the laboratory followed the movements of the Plutonians; they saw them open their mouths instinctively and inhale the good air, and each man paused and looked wide-eyed at his neighbor. Their faces which were ugly by nature had been even more ferocious when they emerged from the ships. Now these same countenances lost their deep, harsh lines and of a sudden smoothed out into calm, peaceful expressions. It was gratifying and at the same time amusing to see them contemplate their weapons with a puzzled demeanor and then drop these instruments of murder as if they were burning hot.

"Let us go and meet them," Warren finally suggested.

At first they found the Plutonians shy, as if they were ashamed of their former fierce passion to slay these people who had established their new homes on the earth. Then gradually they lost their self-consciousness and mingled eagerly with Warren's men. As one ship after another disgorged its cargo of human beings, they went through the same cycle of dazzlement and wonder, then an awakening and finally culminating in friendly advances towards their former enemies.

Warren was happy. He sent one of his men to communiograph the good

news to the four ships aloft, with the request that they come down and join him. Among the densely packed throng of black men he searched in vain for a sign of Gurra. What had become of the leader of these invaders? The same question must have been running through Nita's mind, for she said:

"Warren, I feel just a wee bit frightened. These people have been transformed, but what about Gurra?"

Standing somewhat apart from the crowd, Warren and Rita were able to see over the heads of the others. Around one of the space ships which had landed on its side and after some difficulty had managed to open its air-lock door, there were signs of commotion. A high-pitched, grating voice carried above the modulated tones of the others. There could be no mistaking that voice once it had been heard. It was Gurra!

Clad in a space suit and helmeted, he burst from his flagship, fighting mad. He shouted at his men, inciting them to attack these Earthlings. When his dull mind realized that his forces could not be moved by commands, he resorted to threats. But still they could not understand their leader's cries of, "Attack! Kill!" The taking of life had become an abominable thought to them, a horrible, barbarian cruelty that belonged to the savage past. Now it was out of the question; they could never again be forced to do it.

"Oh, look at that cowardly beast," Nita cried in alarm as Gurra pointed his flame-knife at one of his men and, without warning, severed his head from his body, where it rolled over and over on the steaming ground.

Warren sprang into action. He raced madly toward the black Gurra and shouted to the men who were standing aghast at what had happened:

"Rip off his helmet. He must be made to breathe the new air, then he will understand."

Suddenly Gurra's men were galvanized into action. With a howl they sprang upon their leader and, although he kicked and fought and cursed, they tore the helmet from his head and stepped back out of reach of his sharp, clawing talons.

Warren waited, filled with a vague uneasiness. But the desired effect was not forthcoming. With a bellow of rage, Gurra leaped at his enemy. The man's short, horny arms caught the astonished Warren in a desperate, vise-like grip until the long, curved talons bit into his flesh like fingers of steel.

Warren's men rushed to help him, but with a single mighty blow with his fist the Earthman snapped the Plutonian's head back and the man released his hold and staggered away drunkenly. But he was far from being subdued.

Warren turned to his men. "This is something that could not be avoided," he panted, his voice indicating his keen disappointment. "We can now see that Super-Atmosphere has no effect upon some whose natures are warped and evil. In such cases there is only one thing to do."

And he advanced grimly upon the Plutonian, his eyes calm and steady, in contrast to the other man's half-crazed, bloodshot orbs. Warren had no thought of harming the man; he would subdue him and hold him captive where he could do no harm. But the wily Plutonian was not to be taken so easily.

Craftily he backed away, then turned suddenly as if to run. Warren sprang after him, but as he did so he found himself looking into the tube of a flame-knife. In that split second Warren thought fast. He must not falter or attempt to step aside, for the cruel weapon could sweep a spray of fire and fell him wherever he went. Instead,

he leaped and threw the full weight of his body upon the astonished black man and hurled him to the ground. Before Gurra knew what had happened Warren wrested the flame-knife from his claws and flung it far out of reach.

IN an instant Gurra was on his feet. But this time he did not attack. His weapon was gone and he was helpless. With a shriek and a back-flung glance he took to his heels and sped his short, gnarled body over the ground in the direction where Nita was standing. Fearing that he was intent upon taking revenge on the girl, Warren followed hard on his heels. The faster Warren ran the more desperately Gurra fled before him. Without doubt the man was mad with fear; he had lost all reason and sense of direction, for he did not see how close to the edge of the precipice he was.

Warren shouted a warning, but the fear-impelled man did not heed. Straight for the edge of the sheer drop he ran, and then, to the horror of the thousands who looked on helplessly, he leaped high up into the air and, waving his arms frantically, he disappeared from sight over the brink. Warren ran to where the crazed man had been just a moment before, and the sight he saw below sickened him so that he waved to Nita to stay away.

* * * * *

From the Body of Five Hundred came a message telling Warren that a thousand space ships had left from near-by planets to help him in his fight against the outlaw Plutonians. But Warren speedily dispatched an answer, telling them what had happened, and how the Earthmen had become reconciled with their former enemies.

It was only a few days later that he reported his gigantic task finished. All that remained now was to complete the colonization of the planet, to plant seeds in the ground, reap the harvest and live in peace with one another.

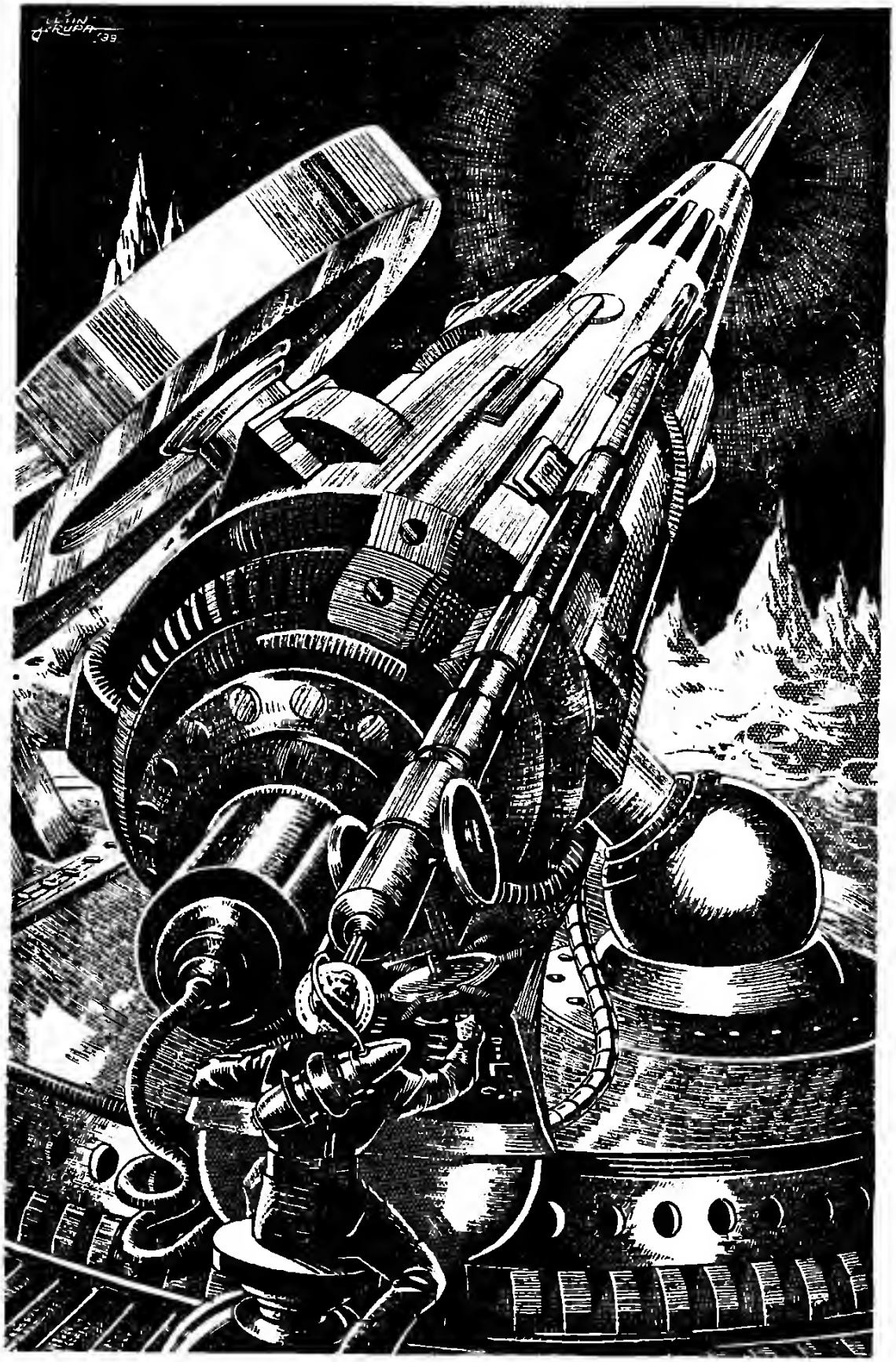
His final report was lengthy and in many portions technical. Warren had sat up late several nights preparing it. While his operator read the words over the communiograph, Warren took Nita by the arm and the two strolled to the laboratory window. It was evening, and the air was clear and still. The sun dipped below the horizon, sending its last rays through the red-tinted atmosphere and lighting up the new world from which sickness, hate, care and envy had been banished. As the full moon shone more brightly in the darkening sky, the operator droned his message to the rulers of the universe on a far distant planet.

When he finished, the communiograph was silent for a moment. Then came the reply:

"Day number 861, sidereal hour 7.25, interstellar period 25,439. This is the Central Communigraph Station located on planet A7-TY in the planetary system of Spica, the alpha star of Virgo. It is with profound gratitude that the Body of Five Hundred acknowledge the stupendous work completed by Warren Bancroft . . . "

But Warren and Nita did not hear any more. They drew closer together and looked with misty eyes over a new world—their home.

THE END



WAR WITH JUPITER

By
W. Lawrence Hamling
and
Mark Reinsberg

CHAPTER I

Aboard the Cachelot

THE master of the *Cachelot,* a well proportioned, middle-aged man, with a hard glint in his clear grey eyes, stood motionless before his pyrex view plate. He seemed in a deep trance of mental reflection. His fingers, however, played lightly over the small "T" bar beneath them, responding automatically as they responded to flickering signals from the control board of the plummeting freighter.

A voice, young and edged with eagerness, broke the deep silence.

"We're within braking distance of the Space Station, Sir!"

"Eh?" responded the broad-shouldered Master as he broke away from his fit of reverie, "Within braking distance already?"

He turned to his myriad instruments and checked the young officer's statement. "You're right, me lad, you may give the braking signal!"

With that he turned back to his view plate, and, as he did so, he could hear the muffled throb of the atomic pulsators releasing their terrific power in check of their mad flight through space.

Dimly the view plate revealed a tiny speck of silver light—light reflected, not from the mother sun, but from the huge bulk of its gigantic companion, Jupiter.

The Space Station. Well did he know the sight of it—a long, elliptical sphere, its greatest diameter being approximately 10.4 miles, and its length nearly reaching the unbelievable distance of 100 miles! Great towering spires, interwoven with long, looping runways, myriads of expansive glassite ports, housing visitors from the nine inclusive planets, and great bloated ware-houses, filled to capacity with the trades of a hundred different races!

The Space Station meant a new link in interplanetary commerce. The Jovians, that great, squat race of bipeds, who lived alone in their poisonous ammonia atmosphere, controlled the entire supply of the system's caldonite, a tough, durable metal, fifty times stronger than the hardest steel, and, as a result of the enormous demand for it, some means had to be devised whereby it could be economically

Between Earth and utter defeat lay only a mysterious capsule dug from an ancient excavation.

transported from Jupiter's surface.*

Consequently, the Space Station, the idea of that great Tellurian scientist, Regert Ohms, had been constructed, as the final connection in the already great chain of interplanetic relations, on which ships from every inhabited world of the Solar system landed, trading, and exchanging goods of every description, including Jovian caldonite.

FOR many months this system had worked perfectly, under the auspices of the Supreme Council on Earth. But now within the last two-and one half months, hundreds of freighters had been deliberately preyed upon by one of the major planets, and it was a natural outcome that suspicion should fall upon both Mars and Jupiter, for it was suspected by many that these two worlds had been secretly plotting together against the Supreme Council.

Mars had been uncommonly indignant. If something were not done immediately, she said the gravest consequences would surely follow. Naturely, the Jovians had denied any knowledge of the strange disappearances, and, as matters stood, a grave tension existed, but at the present, nothing could be done, except to keep a sharp watch for any suspicious looking craft. Thus, as the Master of the *Cachelot* looked into his view plate, he made a careful survey of the surrounding heavens, for any possible lurking craft. He looked out into the inky blackness of space—cold, cheerless, and friendless, stretching on, and on, far into stygian night of infinity, and saw-- *nothing!*

The silver speck of the Space Station itself had suddenly vanished! Then, out of the attuned space receiver came a low, sibilant voice.

"To the Master of the *Cachelot*.—We order you to surrender your ship immediately!"

The hardened Captain stood stolidly before his instruments, and suddenly, he knew! He knew how these vicious attrocities were accomplished! It was as if that ominous voice had brushed aside a dark curtain of uncertainty, for now, he realized how devilishly smart were these bold marauders; painting their ships totally black with light-absorbing material, making themselves practically invisible! That was what had blotted out the Space Station. No wonder little resistance had been met, for how could a battle be fought against an unseen foe? His voice, hard and brittle with unconcealed contempt, barked into the transmitter.

"Go to the devil you damned murdering pirates!" So saying he prepared to whip the sleek ship into as quick a turn as was possible, considering the impetus of their drive. But, before he could so much as move a finger, a great orange light appeared from nowhere to bathe the ship in an eerie glow, slowly turning the metal a dull red, and finally a bright crimson.

For five minutes the rays played upon the ship, then it suddenly flickered out, and a black shape moved in close to the doomed vessel.

CHAPTER II

Turmoil

THE Supreme Council chamber was in an uproar. The massive room shook with the terrific vibration of a thousand voices, each clamoring to be recognized by the President, each trying to outdo his neighbor, and each succeeding rather boisterously.

*The terrific gravitational pull of Jupiter, over two and a half times that of Earth, prevented freighters from landing and departing with a full load because all their fuel would invariably be consumed in the task of fighting the strain of the Jovian gravity.—Ed.

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So great was the confusion that actual fighting threatened to break out among the gathered delegates, in fact, already a small, green scaled Venusian had torn at the yellow body of his nearest Martian neighbor, who had immediately returned the assault with a hideous scream of hate. He was quickly being re-enforced by others of his well represented clan when a deep, stentorian voice boomed ominously in the midst of the massed confusion.

"SILENCE!" The voice carried not only official anger in its tone, but also a note of complete command that ordered an immediate cessation of the disturbance; and, it was not many minutes after before the uproar had subsided sufficiently so that the President's voice could be heard in its ordinary tone.

"Just what do you gentlemen, if gentlemen I can call you after such a boorish display, expect to attain by such measures? I must request that never again shall such a thing occur, under penalty of expulsion from the Council!"

His words were met by a hushed assembly, hushed excepting for the Martian section, from whose solid ranks there issued an unmistakable murmuring.

Suddenly, a harsh, metallic voice cut through the enforced silence, issuing directly from the Martian section. It was Lakh Tar, the viceroy of the Martian government.

"Mr. President!" the words seemed more of a mockery than a respectful address: "I demand that immediate steps be taken to repel these unwarranted ravages upon transport freight! It is coming to such a state where my government will no longer stand for this inactivity from the Council!"

His words were met by a general hubbub; some voices raised in assent, but the majority mumbling forth in ill-concealed annoyance, angered by the domineering tone of the haughty Martian.

Then, the chamber once more regained its composure, this time, however, not under direct threat of impeachment, but as a result of the appearance of a lofty, white-haired figure, an Earthman, quite advanced in years if appearances meant anything. He made his way quietly to the speaker's platform, to the right of the President, and, as he stood there, straight, tall and commanding, despite his apparent age, whispers drifted througbout the entire assembly.

"Regert Obms! Look—its Regert Ohms!" And indeed it was the great scientist, in whose brain the Space Station had found its being, by whose hands the efficient atomic-pulsator had been wrought, from whose mind the entire advancement in science had originated. Yes, it was Regert Ohms, most respected, and feared, if it were known, of all human beings in the entire planetary council.

HE stood there a moment, domineering and impressive, viewing the multitude of faces peering up at him, awaiting his words. Then he spoke without introductory remarks: "We all have the same issue in common today, that of finding a solution to the present crisis. Mr. Tar, in particular, it seems has great complaints to lay before the Council. complaints of damage to freight transporting, but, as yet, as far as records show, I do not recall one single instance in which a Martian ship has been attacked and confiscated. Lakh Tar states that if something is not done immediately, his government will not be responsible for its actions. Since this person, one of our more distinguished delegates, has said that something must be done, and done quickly, perhaps he can provide us with

a favorable solution to the problem?"

The Martian arose angrily to his feet. trembling visibly in ill-concealed wrath.

"Do you dare accuse my government of having any connection with these atrocities? I demand a formal apology to such an outrageous insult! Furthermore—it is not my place to provide any solution. With such an exalted brain as Regert Ohms in our midst such a problem should be easy to solve. If *you* can not find an answer who can?"

The Council was once more in an uproar—the Martians on their feet applauding the outburst of Lakh Tar, while the remainder of the assembly took sides with the aged scientist and audibly flung stinging insults toward the Martian section.

The heavy mallet of the President resounded throughout the chamber, bringing silence and once more the tall figure of Regert Ohms addressed the assembly.

"I wish to assure the assembly that I had no intention of insulting the Martian government by my remarks, but, since that government has openly declared itself hostile to the procedure of the Council, I feel that it is only right in regards to the other members of the Council that certain facts should be brought to light that hitherto have remained in darkness!" He paused for a moment, and his eyes blazed furiously as he slowly continued.

"Gentlemen, I can tell you the names of the persons responsible for these atrocities upon our trade and commerce; I can tell you the name of that people, and the purpose behind their actions!" Once again he paused, and viewed the tense faces about him, tense to the point of breathlessness, for not a sound issued from the vast gathering.

"Today, the Tellurian ship, the *Cachelot,* was found drifting in space approximately 300,000 miles from the Space Station, a charred, blackened hulk of death, every life abroad lost, and its entire cargo, which consisted mainly of a fabulous shipment of radium, gone!"

Not a sound came from the hushed group; it was as if a spell had been cast upon them. Then Regert Ohms continued, this time his voice developing a distinct note of harshness. "And on that ship, in the control room, the captain was found, burnt horribly, but still retaining a grip upon the "T" bar, as if he had not been quite dead when the murderers entered the ship. Upon examining his mutilated body, the unmistakable marks of a hydro-cyanic bullet * were found; a bullet that is used *only by the inhabitants of Mars and Jupiter!"*

Not a being moved in that great Council chamber; not a voice broke the unnatural stillness, and then, slowly, each and every eye turned upon the Martian section, and a deep murmuring arose, a rising thunder of angry voices. Out of the threatening tenseness of the room appeared the figure of Lakh Tar, whose shrill, screaming voice pierced to the farthest corners of the assembly.

"You—you dare to accuse us of these abominable crimes? You dare to call the Martian government a harborer of bloody pirates?" His ungainly figure was so shaken with wrath and anger that it seemed as if he must burst a blood vessel. "I have stood enough of these intolerable insults! In view of the authority invested in me by my superiors, I hereby withdraw all Martian in-

*Hydro-cyanic bullets are made upon the planet Jupiter, because of the large amount of the poisonous gas upon that planet. They have been outlawed by the Supreme Council on Earth, but still, Mars, and Jupiter continue to use them. . . . The distribution of hydrogen cyanide in the metabolism of a human being when hit by such a pellet causes a most unpleasant death by convulsion, hence, the reason for its being outlawed by the Council on Earth.—Author.

terests and capacities from this Council!"

No pounding of the gavel, no threatening commands, not even the pleading figure of Regert Ohms could restore order to that assembly—it was as if a mighty storm had burst within the confines of the lofty chamber. It was by the order of the President that the Planetary guard broke in upon the wild scene, and temporarily dissolved the meeting. . . .

CHAPTER III

Open Rebellion

REGERT OHMS walked wearily down the smooth metal corridors, away from the seething inferno of the Council chamber, his mind in a highly unstable state. Who could have foreseen the unprecedented thing that had just happened—Mars seceding, not one day after Jupiter, from the Supreme delegation, and the smooth-working machine of the Council completely demolished in just one operation.

His son, Wehl, a tall, straight, athletic young man, bearing the stamp of his father's commanding features, met him at the door. Seeing the look of distress upon his father's brow, he did not try to question him, but walked slowly beside him into the massively equipped laboratory directly behind their well-furnished living quarters.

The room into which they thus proceeded was a great circular affair, lofty and expansive, surrounded on all sides by a great glass enclosure, insuring the maximum amount of light needed for certain experiments, and filled throughout with a most amazing assortment of scientific instruments and mahines.

Regert Ohms sat down weakly in one of the less comfortable chairs, a hard metal piece of furniture, and calmly began to relate the preceding events to his attentive son, blaming himself all the while for having started the affair.

But Wehl restrained him, "I know how you feel, Father, but both you and I know that Mars is directly responsible for these piracies, as much so as Jupiter, and it is probably better that the Council knows the exact truth."

"That in itself is true, my son," spoke the aged scientist, "but that is not what is troubling me—I am thinking of the future, for now those devilish dogs won't even need to work in secret, but will openly defy the Council. They will increase their activities a hundred times, which will undoubtedly end in a disastrous war." He gripped the chair strongly, and his voice whispered softly, "Yes, something must be done!" . . .

IN the weeks that followed, it became apparent, even to the most skeptical minds, that both Mars and Jupiter had allied in some secret treaty. That between themselves, they were feasting upon millions and millions of dollars of loot taken from victimized transports in the vicinity of the Space Station; not in secret, as had been their policy in the past, but openly, even as the old scientist had foretold. Even more alarming was the fact that all peaceful negotiations between these two planets and the rest of the system had been unceremoniously broken off. To make matters worse—the control of the Space Station had been taken by force from the hands of the Council. It was being turned into a veritable Rock of Gibralter of Space by its domineering tenants.

Great fortifications were being erected upon its surface—fortifications that made the greatest weapons aboard the largest of the Space fleets look like toy pistols. In short, this work of genius, that had taken years to plan and construct, for the purpose of peace and friendly relations between worlds,

was now being turned to the purpose of war. A weapon that was in itself invincible, protecting the great fleets of Mars and Jupiter, combined upon its surface, safe from any attack.

The outlook upon the future became the blackest it had ever been. The fear of invasion was prevalent in every mind, resulting in the greatest re-armament campaign since the ancient days of the Twentieth Century, over five thousand years back.

But the other planets of the Solar System were too late, for Mars and Jupiter had been secretly preparing for this moment for many years. Before the Council knew exactly what was happening, the gigantic Martian and Jovian forces began to move. Their first victim was the planet Saturn, which they subdued in less than fourteen Earth hours with fiendish compression rays, with enormous Martian "squash" guns, and a myriad of hydro-cyanic projectors, which emitted great streams of the poisonous material throughout the Saturnian atmosphere, killing the unprepared people by the millions. A ghastily business it was, a horribly brutal maneuver, but it served as a warning, a warning that told the rest of the planets under the protection of the Council that their turn might well be next.

CHAPTER IV

Disaster

ONCE again the Supreme Council was in an uproar—this time, however, not in such a state as previously, but in a clamoring thunder of complaint and terror.

The President, haggard-eyed, and obviously troubled through loss of sleep, pleaded for order, but his voice went unheeded until the tall form of Regert Ohms made its appearance upon the platform, when suddenly, the clamoring died into silence as they all waited for his words, hoping that at last this great man had found a solution to the crisis, a means of defeating the impregnable forces of the enemy.

He stood there, not quite so straight as he had a few weeks before, but, nevertheless, impressive, and commanding of appearance, as was his natural pose.

"Member of the Council," he began, "our supply of caldonite is exhausted, and the only means of acquiring any more is through the use of the space station, which is hopelessly cut off from us. Our re-armament program is at a standstill through the loss of that necessary metal. Our enemies, on the other hand, have an unlimited supply of it at their disposal, and have constructed an enormous fighting fleet which may continue its attack at any moment. There is but one answer.

"If the ancient saying, "What you create, you can destroy," has any foundation in fact, then I will find some way to defeat the Martians and Jovians by destroying the Space Station!"

His words were met by a thunderous ovation of applause, and hundreds of voices exalted his name, as if he had already accomplished what he had merely implied in words.

But there was one man who knew the real feelings of this great man; that person was the President of the Council, and, as Regert Ohms left the assembly, the President walked beside him, conversing softly.

"You have made no plans, have you Regert?"

The scientist, shaking his head slowly from side to side, answered. "I could not let those people down, Sir, they have put so much trust in me. But, as God is my witness, I shall not rest until I have succeeded—I must!"

With these parting words, he left the President and began to thread his way slowly down the corridors toward his laboratory. Suddenly he was thrown from his feet by a mighty blast, a terrific concussion that rocked the very foundations of the immense building. A soldier gently assisted him to his feet.

"What has happened—where was that explosion?"

"I don't know Sir, but I think it came from your laboratory."

"My laboratory? Good heavens, my son!"

He ran wildly down the corridors, into his wrecked apartments, stopped short. Where his well-equipped laboratory had been, now was a gigantic hole—a hole that had entirely obliterated all traces of the erstwhile workshop, a great deep chasm, undoubtedly the work of an atomic bomb, stretching downward for a depth of over sixty feet into the solid rock foundation of the building.

A strangled cry broke from his lips, "My son, my son!" He slumped to the ground before the yawning chasm as the full import of the ghastly fate he had escaped engulfed him. This work was undoubtedly that of the agents of Lakh Tar, who knew that he was the only man who stood any chances of foiling his mad schemes of planetary dominance. He could see in his mind's eye how one of these agents, seeing the figure of a man in the room, must have taken it to be he, Regert Ohms. He must have set the time fuse on the bomb, and, after placing it against the building stealthily, run away to escape, while behind him that hellish mechanism of death had exploded, sending his son to a horrible death, and completely demolishing his beautiful laboratory.

As these thoughts forged through his numbed brain, his old, worn body collapsed. The strain of all these past days, now added immeasureably by the present catastrophe, had been entirely too much for him.

CHAPTER V

A Discovery

THREE days followed while he convalesced from the shock of his son's untimely death. After he had once more regained some semblance of his former self, he was consistently accompanied by two expert body-guards, for the Council was taking no unnecessary chances with his valuable safety. Few persons would have recognized the figure of Regert Ohms now for he had aged ten years in those few days. He seldom spoke, unless it was to give a direct order.

It was late in the afternoon—the date, July 15, 6960. Regert Ohms, looked at the calendar, and his fingers trembled visibly. It was his son's birthday, for which he had planned much. It would not be in the least false to say that tears formed in his stern, grey eyes.

Clutching the tattered remains of the calendar in his hands, he stood among the despotic ruins of his laboratory, trying to find some trace of his lost records. Not easily replaceable excepting by hard, scientific labor. He rummaged over accumulated piles of debris, recognizing as he searched, parts of machinery that had once been assembled into mighty scientific instruments. He was standing at the bottom of the great hole, nearly sixty feet below the rim of the open world.

Before him lay the end of a metal tube, projecting from a solid mass of stone and concrete. He made his way over to the object and examined it closely.

From outward appearance it looked

like the replica of one of the ancient shells on display in the museum of history—a shell such as had been used in the Twentieth Century as a weapon of war. Its nose was rusted and corroded, as if it had been there for many years, but it was strangely out of place among the torn remains of his laboratory, for old Regert Ohms could not recall ever having possessed any such contrivance among his tiers of equipment.

He called to his body-guards, who were situated at the top of the hole, incessantly watching him, and ordered that they summon workmen and equipment in order to retrieve the tube.

In ten minutes time, the crew arrived, carrying a large atomic drill.

The men lowered themselves into the pit and immediately went to work. The drill came to life with a deafening blast. The rock beneath its muzzle disintegrated into a shower of pulverized dust. Quickly and efficiently they labored, the drill working its way around the tube, boring deeper and deeper, until, finally, the thing was freed from its prison. Attaching magnetic grapples to it, the group of workmen left the pit.

The weight of the long, slim object was not excessive, and it was easily brought to the surface. After it had been deposited upon the ground, Regert Ohms had an opportunity to see its full length, approximately seven and a half feet, with a possible diameter of eight inches. The exterior was so entirely coated with deposits that little could be learned from a mere glance, so the scientist ordered it to be taken to his temporary workshop on the other side of the building.

The seven men lifted it without much effort, for the thing weighed little more than eight hundred pounds. Within ten minutes it lay motionless upon a hard metal table within the rather small confines of the temporary laboratory. Their work completed, the scientist dismissed the men and turned his full attention to the strange metal tube.

AFTER scraping off about a quarter-inch or so of deposit, he caught the smooth gleam of untarnished metal beneath it. His curiosity was aroused to fever pitch by this discovery, for he was absolutely sure that he had come across something entirely out of the ordinary. No matter what the tube was, he was sure of one thing, that it had no connection at all with the explosion —in fact, this thing must have been resting in the ground beneath his laboratory for centuries.

The next thing he did was to chip a small piece of the material from the main body and analyze it. The compounds, he found, were a rather weak alloy, composed of chromium and copper, with a small amount of silver added.

For a few moments he remained undecided as to what to do with the tube. Obviously the only feasible course would be to attempt to open it, in order to find out if anything were inside. He connected a welding ray, the name of the instrument being adverse, in that it was used both to join, and to separate. With this machine, he proceeded to play a hot, searing beam upon the metal casing, which immediately glowed a deep, cherry-red, and finally began to melt, running away from the blasting heat of the fiery ray.

All the way around the tube he went with the beam of incandescent heat, covering completely the seven and a half feet of metal, until he had cut the case entirely in half and was able to separate the two sections.

What he saw gave him pause for wonder, for the covering beneath the thick metal was a recognizable pyrex glass, under which he could see the un-

mistakable color of a black insulator. His efforts now were quick and sure; he played the heat upon the glass just enough to weaken it, then cracked it from the dark covering. Tearing away the insulator, he revealed a most startling sight, for, stacked within the tube, was a most peculiar assortment of objects, from ancient light bulbs down to tiny rolls of micro-film.

The full knowledge of the discovery appalled him—it was a message from some by-gone generation, preserving the science of that day for the future. Indeed, it must have been a long time ago for he could remember no records of anything of this sort having been put into hibernation, for many past centuries.

Then he found the message. At first he had a rough time of it in recognizing the language, but since he had made a study of all ancient tongues in his student days, it was not long before he comprehended the meaning of the words, written in the ancient English tongue.

On this day of September 23, 1938, the Westinghouse Time Capsule, with its compressed storehouse of scientific information, begins its five thousand year journey into the future. To you people of a distant day, we of the Twentieth Century send this tube. For five thousand years this memorial of a great generation shall lie buried, and, when these words are read, you of the future will receive some idea of how your ancestors lived, dressed, and progressed. We are enclosing in this tube the most important scientific and social products of our era, reduced to micro-film in many respects. Our science, in probable comparison with that of yours, is no doubt obsolete, but remember that all your progress had its beginning in our time.*

At this point, Regert Ohms stopped reading, and a great feeling of respect entered his heart. What a great race of beings those ancients must have been! What foresight—to preserve their scientific knowledge for the future, to let their descendants know of them.

HE turned his attention to the objects inside the tube. He examined a light bulb, the ancient system of illumination, now replaced by efficient radium lighting. He examined the tiny rolls of film, noted the history of Einstein's theory of Relativity, of Fitzgerald's Contraction theory, of Darwin's theory. He followed advancement in magazines and literature, and especially long did he dwell upon one tiny roll of film, about a science fiction magazine called AMAZING STORIES, and he

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*Exactly at high noon (standard time) on September 23, 1938, the moment of the Autumnal Equinox, the Westinghouse Time Capsule, carrying a compressed storehouse of information about today's civilization, began its 5,000-year journey into the future at the New York World's Fair Grounds.

With the declaration: "May this Time Capsule sleep well. When it is awakened 5,000 years from now may its contents be found a suitable gift to our far-off descendants." A. W. Robertson, Chairman of the Westinghouse Electric & Manufacturing Company, gave the signal to lower the burnished Cupaloy Capsule fifty feet into the ground at the site of the Westinghouse building, a model of which was afterward unveiled.

To the solemn booming of a giant bell, the Capsule disappeared slowly into the earth. Workmen screwed down and sealed the cap, symbolically dispatching, for delivery in 5,000 years, the heaviest "letter" ever "mailed."

During the World's Fair the Capsule may be on view through a periscope, and inside the Westinghouse Building will be a replica, together with duplicates of all the objects, books, fabrics, alloys, toys, newsreels and other items it contains.

When the Fair is over pitch and concrete will be poured down the Well; the retaining pipe will be removed, and the Capsule will be left for discovery by archaeologists of the future.—Excerpt from "Amazing Stories" for January, 1939. (Note: The issue referred to in this story is the October Amazing Stories, selected by a committee of scientists for inclusion in the Time Capsule.—Ed.)

marveled at some of the things he saw foretold in the stories included. "Indeed an amazing race they must have been!" came his muttered phrases, as he interestedly scanned its pages.

As his eyes ran over the lines on the film, lines from a by-gone era, his heart leaped—his hands trembled—for he had found the answer to his problem, an answer given by a micro-film over five thousand years old! *He had found a way to destroy the Space Station!*

Regert Ohms eyes blazed with a fire that had been absent for many days. At last he had found a way to destroy the menace of the Space Station. It had taken the Westinghouse Time Capsule to open his eyes.

All that was needed was to send an atomic, caldonite catalyst against the Space Station! He could see in his mind's eye what would happen when such a catalyst would strike the station. Being made entirely of caldonite, the entire, man-made world would completely disintegrate in atomic combustion!

CHAPTER VI

A Dead Victory

THE weeks slipped by, and day by day the enemy was building stronger fortifications upon the Station, massing great fleets from the surface of Jupiter in preparation for a great drive of conquest, against Earth itself!

The Council clamored insistently for news from Regert Ohms, but the aged scientist was missing from Earth and could not be found. Had they known where to look, he could have been found upon the Moon, taking part in a gigantic project of extreme secrecy.

A massive object began to take form upon the Moon's dim surface, an enormous thing that rose three hundred feet into the airless atmosphere. It was a ponderous thing—a gun, larger than any ever before built, and, at its base, making slight adjustments here and there, stood Regert Ohms.

A long, slim, pointing muzzle reached high into the heavens, in the general direction of Jupiter. The scientist looked outlandish in his weird space garb, but there could be no mistaking the resolute gleam in his eye as he sighted along the straight, true, barrel. He knew that in a few more hours his task would be completed and the time would be near to reap the fruits of the labor of the past three weeks.

Every once in awhile he would give an order to one of the workmen who labored at finishing touches, and he seemed to grow a little more nervous as the time of completion neared.

As he saw that everything was progressing nicely, he checked his final calculations.

He knew that even the lowest velocity would send the projectile on its way from the Moon's surface, away from the pull of the Lunar gravity, one-sixth that of Earth. He had calculated that the projectile would travel at a speed of approximately 93,000 miles per second. The projectile should reach the Space Station in close to seventy minutes time, and then he shuddered. A gruesome way to attain the end, but, they had killed his son, and there was no other way, even though it meant the loss of every life upon the Station.

AS the time drew near for the proposed shot, he took a last look into his special light-gathering view plate, reaching its invisible eyes far out into space.

He gazed with extreme satisfaction upon the thing that he had created, moving serenely in its own individual orbit, but his eyes shadowed as he glimpsed the countless ships upon its surface,

waiting for the signal to attack.

A workman informed him that all was now ready for the signal to fire!

Regert Ohms stood silently waiting, as if transfixed to the ground by some unearthly force. In two minutes' time he would give the signal, and at that moment the catalyst of death would be launched upon its journey through the heavens. . . . One minute gone; his fingers trembled visibly as they clutched the watch tightly. His brain seemed to jump spasmodically at every jerking movement of the slowly revolving second hand. Ten seconds to go! The blood pounded madly through his veins, and his heart pumped furiously in his throat, and then—the time!

There was no audible sound when the huge mechanical thing disrupted in the airless atmosphere of the Moon, but the terrific power of it could be visibly felt as it shook the very mountains standing eternally around it. Regert Ohms, although he had braced himself for the shock, felt as if every single atom of his body had been subjected to vibration. But—it had gone—gone on its grisly errand of death and destruction. . . .

The scientist sat impatiently at his control board, nervously tapping upon the hard metal expanse surrounding him. Intermittently, glanced from the finely focused view plate to the softly ticking watch, which seemed to move agedly, making the small space of a second seem a year. . . . Thirty minutes had passed. He fidgeted annoyedly in his comfortable seat, as if his actions would increase the speed of time. . . . Forty minutes passed.

He glanced automatically at the view plate before him—and started. For a few moments he gazed intently at it, and then, finally relaxed. He had seen a gigantic fleet leave the surface of Jupiter and head for the Space Station, and he smiled grimly as he thought of the surprise that soon awaited them. Fifty minutes passed.

Suddenly, he leaped from his chair. His eyes bulged unbelievably from his head. Were his senses deceiving him, or did he actually see those great fleets rising from the smooth metal runways of the Station? Yes, it was true. Horribly true. And those ships, as they rose from their berths, were heading—toward Earth!

REGERT OHMS groaned, he groaned miserably, pouring out the tragic sorrow of his soul in utter desponency. All his weeks of labor of no avail—to be cheated just when he had been so sure of success. For the first time in his long, eventful life, he now felt the sharp pangs of defeat, and it hurt, hurt dreadfully.

Then the missile struck! Regert Ohms saw it strike—saw it hit the spiring towers of the Space port—saw the catalyst explode with tremendous force and ignite the caldonite atoms of the entire station, the impregnable Space Station! Such a sight had never before been witnessed by human eyes—a man-made world completely disintegrating, its atoms exploding in such cataclysmic force as to make the small object a miniature sun.

Section by section, hemisphere by hemisphere, from pole to pole went the mighty forces, and then, the remains exploded into a trillion tiny stars, a trillion streaking comets that launched themselves throughout space.

Regert Ohms lifted his ship from the moon, heading for the bright immensity of Earth. A fiery exultation coursed throughout his body, for he had conquered! Conquered through the aid of a race long since dead. A five thousand year Time Capsule had proved its worth.

RETURN of the SPACE HAWK

by DUNCAN FARNSWORTH

IF Slade Fay played coward, lovely Dana Forester would hate him. If he didn't, Gorham would recognize him—and hang him!

"CHIEF, Chief, queek—I am see something!"

Slade Fay looked up from his paper-littered desk quickly, irritation in his usually bland blue eyes. Looked up at the swarthy, visibly excited little Martian who had breathlessly uttered that frantic sentence as he burst into the mining office.

"Damn it, Kogo!" Fay snapped. "Haven't I told you never to call me Chief? Haven't you gotten that into your skull yet?" Then, calming somewhat, Fay added: "What's the trouble, been filling yourself up with that planet punch again? Seeing things?"

Kogo shook his round bald head excitedly. "No, no. I'm not drink anyting. Just now, passing right outside mining office, I'm see *Jon Gorham!*"

"Jon Gorham?" Fay was startled. "Not *Federation Inspector Gorham?*" Then, at once, he was standing, running his lean brown hand through tousled straw-colored hair.

Kogo nodded swiftly.

"It is no other I am seeing!"

Fay's lips compressed, his slight, wiry frame went taut. Anxious concern was written in his eyes.

"Did he see you?" he demanded. Then, as an afterthought, Fay added: "That wouldn't make any difference, though. Gorham couldn't possibly remember you." Suddenly: "Where was he coming from?"

"He is come from the direction of landing base. He is go toward village and garrison," Kogo declared.

"Must have just arrived," Fay said half to himself. Then his brown hand clenched and he brought it hard upon his desk. "Damn!" he snapped. "This is a hell of a mess. If Gorham has come here with any suspicions—if he has any idea that he might find me here . . ." Fay broke off suddenly.

"It has been five, six, year since we are arrive here . . ." Kogo began.

"Eight years," Fay cut him off. "We've been here eight years, Kogo. Eight years trying to start things over again, trying to wipe a dirty slate clean, trying to live like decent, God-fearing citizens of space. Eight years that aren't going to be worth a cent on our record if Gorham is able to recognize me."

Kogo paled beneath his swarthy complexion. He grabbed at his throat in a significent gesture.

"Space pirates they are hung. Eet is not civilization that they should hang space pirates. But they do. O, yak, if these

Gorham remembers, eet will be like you say, our record will not mean anyting!"

BUT Fay wasn't listening to the ominous predictions of his little Martian handyman. His blue eyes had narrowed and were fixed on the ceiling as he went over some swift reflections. He was recalling the last time he had encountered Federation Inspector Gorham.

Eight years ago, that had been . . .

Eight years ago, when Slade Fay was known only as the "Space Hawk," known only as the most feared and hated pirate in the outer stratas of space. The Federation Patrols had had a staggering reward planked on the nose of his crimson single-seater space fighter in those days. A reward which few men—including the most dauntless in the Patrols—had dared to go after. For the "Space Hawk" and his pirate squadron had amassed incredible loot in their raids on the outposts of the interplanetary chain.

And eight years ago Slade Fay had been, at twenty-three, the most daring, courageous, and deadly pilot-fighter in space. For his had been a heritage of space banditry. He had been born and raised on an outlaw post in the uncharted reaches of the interplanetary chain. Grown up among freebooters and pirates, finally rising to unquestioned leadership of the most notorious of the space raiding squadrons.

Slade Fay's father had been a space freebooter—a tall, seldom smiling leader of a small brigand band. And as for Fay's mother, since he had never seen her, he presumed she had died shortly after his birth. Fay's first conscious recollection of his childhood had been a bitter, tearful day when a group of hard-fisted freebooters —who had served under his father—came to him and tried to explain, as best they could to a four year old child, that his father had been shot down in a battle with Federation Patrols.

Fay hadn't been able to understand quite well what they meant, but the child did realize that his father had gone, and would never return. And the orphaned waif of space had dug his tiny fists into his blue eyes in an effort to choke back the tears he was ashamed to shed in front of men. Then, perhaps, the future pirate leader "Space Hawk" had been born. The space waif was even nameless at that time, since his father had been known among the pirates only as Big Slade, and the uncouth outlaws referred to him as "son" or "tyke."

Later, after he'd gained leadership, he was still without a name. It was the Federation Patrols who had tacked the title "Hawk" on him, and his pillaging comrades had called him that from that day forward.

But Fay's battle to eventual leadership among the brigands of space had been —like the rest of his youthful existence —a wild, hard, and fierce one. It had taken guts, and brains of a sort, and a reckless daring and sense of timing when it came to putting a space fighting craft through its paces. Fay had been twelve when he'd soloed his first space craft, fourteen, when he went along on his first pirate raid. And bit by bit, he built a reputation among his bandit comrades. A reputation for daring and natural leadership that led him to the eventual day when he hurled his space gauntlet into the startled face of the pirate who was then the burly commander of the brigand forces.

And, according to the unwritten tradition of the freebooters, the hurling of the space gauntlet meant one thing—a challenge for the leadership of the band!

Fay was eighteen on the day he challenged, grim and unsmiling as he took his fighter craft up into the void to meet the burly commander of the pirates in a death-battle for leadership of the freebooters.

The man he downed that day was a veteran, with the heart and savage skill of more than fifteen years behind him, but Fay hadn't bothered to reckon that. The youth knew only one thing, that he was the greatest pilot of them all, and that he would prove it in his inter-brigand death battle.

In a fight that lasted fourteen hours, Fay at last sent the space ship of his opponent hurtling downward through the void—a cinder. And when he stepped out of his craft to face the admiration of the men who were now his to command, his hands were blackened and seared by the flame of his proton guns but his grin was wide and cocky. He had won leadership, and none dared dispute him.

FROM that day on, Fay took command. None but his own comrades knew him by sight. Government and the Federation Patrols could recognize him only

by the masterful manner in which he whipped his crimson ship through a hell-fight in the void. And his supreme command of space-fighter maneuvers marked him as definitely as fingerprints would have marked another man.

But then, eight years ago, there came that time when Federation Inspector Gorham had—with a squadron of fifteen fighters—trapped young Fay and his brigand band on a small outpost near Saturn. There had been fury in the void, that day, as young Fay led his squadron through the trap that Gorham set for them.

In his crimson single-seater—with the ever-present Kogo sandwiched in behind him—Fay had led his hand through the blazing hell of Gorham's proton guns. Had led them through, and personally accounted for seven of the Federation's fifteen fighters, while losing only three of his own ships. Gorham and two other Federation space fighters escaped, but the rest of the government patrol were not as fortunate.

And it was only a day after that battle that the "Space Hawk," somehow sickened by the carnage he'd been guilty of, and infinitely weary of the harried existence that was his, decided to abandon his career of blood and pillage.

The Space Hawk's announcement that he was quitting the freebooter's life hadn't been popular with his brigand band. To them he had been a cunning, skillful leader, a daring general. Never in the history of space piracy had freebooters enjoyed the success that they had had under the leadership of the Space Hawk. There was little sentiment among the pirate hordes, but they knew the financial advantage of the Space Hawk's generalship. Scarcely any of them wanted to see him go.

But among those who were pleased by his decision to end his career as pirate chieftan was one Black Bart—a swarthy, black-bearded, thick-muscled Venusian renegade. He had served as one of several sub-lieutenants to the Space Hawk, lacking the daring, and speed, and brains of his slim blond leader, but having no equal in the far vast voids of space for cruelty and blood-lusting savagery.

Under the Space Hawk's constant restraint and vigilance, Black Bart's bestial wildness had been kept in check, for, like the others, he held fear and respect for the dashing young brigand leader. And it was a secret order, passed among his most trusted men, that the Space Hawk left with his brigands—"Keep Black Bart from leadership!"

The slim young pirate commander felt certain that Black Bart would not take over as his successor if the rules of the brigand bands were followed in choosing a leader to replace the Space Hawk. There were other lieutenants of equal skill in space fighting to Black Bart, and the retiring young commander felt assured that one of these would best the beetle-browed thug in the tournament-to-death for leadership of the freebooters.

The Space Hawk was not five days' travel from his outlaw planet when word came to him that, somehow, Black Bart had wrested supremacy of the brigand bands from the other lieutenants and was now free to rage the void as an unchecked, untamed menace.

But with Kogo, and an unobstrusive, unarmed space ship, plus some of the fortune he had amassed, young Fay was already headed directly for Earth—where there wasn't a chance of his being identified—to make arrangements for a fresh start on one of the interplanetary mining fields.

He thought of going back to his outlaw planet just long enough to unseat Black Bart from his new leadership, but then he shrugged inwardly and gave up the idea, realizing that he could never start afresh if he was going to have to constantly police his old companions.

ARRIVING on Earth he'd taken the name "Slade Fay," and under that name, went on to Planetoid Ninety, buying enough acreage to set up a radium drilling corporation. Kogo was the only one aware of his past existence, and there was scant risk of his ever being identified as the "Hawk." He'd seen to that, by the clothes he chose, and the ignorance he protested in connection with piloting a space ship. No one would ever think of looking for a quiet, blond, unobtrusive young man industriously operating a very legitimate business—not if they sought the "Space Hawk!"

For the "Space Hawk" had vanished eight years ago . . .

Slade Fay realized this, as he frowned tensely at the ceiling. He was safe here. The life he'd been living had been right, and decent, and would continue to be. He'd

severed connections forever with the bloody past he'd been born to. He had a future ahead of him. A prospering business, and even a girl, here on Planetoid Ninety, whom he hoped one day to marry.

"But what is Gorham doing here?" Fay said aloud. And Kogo, still breathing in heavy excitement, shook his head unknowingly.

"Eight year long time," Kogo suggested. "Maybe Gorham no know you here. Gorham no have idea what you look like. None have any idea about *that*. They never saw you then. So they don't know you now." To Kogo, this all seemed simple, masterful logic, and he grinned happily as he concluded his speech.

But Fay shook his head.

"It's not as easy as that, Kogo. If any of our old cutthroat pals were captured, there's a possibility that one of them might betray me, describe me sufficiently enough for the Federation Patrols to know what sort of a chap to look for. That's the risk we've been running all these eight years."

"Eight year long time," Kogo repeated stubbornly. "If Gorham know, then why do Gorham not come quick and grab us for hanging party?"

Fay relaxed somewhat at this.

"You've got something there," he acknowledged. "We'll have to play it cozy and see what happens. If Gorham isn't here on a tip, we're safe. Keep your nail-bitten fingers crossed, Kogo."

"Me cross," said the swarthy Martian obediently. "Me like it these eight year. So restful, so good."

Fay smiled reflectively. "Yes, these eight years have been pleasant, Kogo. A lot different from the life we knew before then, eh?"

Kogo grinned. "Space pirating plenty damned exciting, but too much on the move all time. You been good influence on Kogo, Boss. Give Kogo plenty luck."

"Or," Fay amended, "it might be the other way around. When I saved your neck from a hanging party that day you stumbled into our outlaw base twelve years ago, I was doing myself a better turn than I did for you. Had nothing but good luck ever since then."

Kogo touched his throat in uncomfortable recollection.

"That right, plenty right, Boss. But here on Ninety was best luck Kogo ever have. Old outlaw life was get too fast for Kogo near the end. It seem funny, though, how you look and act these eight year, Boss. You not like outlaw a bit."

Fay mentally agreed to this. The role that he had forced himself to enact was the direct opposite of his more youthful characteristic as a leader of space brigands. Ever since his arrival on Planetoid Ninety, he had seen to it that his attitude was consistently one of outward calm, constant unassuming mildness. Even the tunics he wore were selected with an eye toward totally altering his personal appearance. They were all plainly and conservatively tailored—so unobtrusive as to be a perfect background for the mild-mannered young engineer he portrayed.

Not that Fay minded this role. The very genuineness of his effort to live for the rest of his life as a conservative citizen of society prevented him from feeling restrained by his chosen role. And, too, there *was* a pleasant feeling of reward gained from this serene, secure existence—a sort of restful comfortable calm. He had learned to enjoy things not necessarily exciting. He had learned to live as a civilized human being, getting the utmost joy out of the simple, friendly things of life, rather than as the sensation-seeking pillager that he once was.

THIS new life had come to mean more to Fay than he ever imagined it could. It gave him a sense of honor, usefulness, decency, and made the very mundane day-to-day existence of working and living in harmony with the right half of the world something fine and exciting in itself.

"It has been fine," Fay concluded. And the thought made him instantly snap his fingers at the recollection of the finest thing about it—one petite, brunette, and lovely Dana Forester.

"Get me the Forester residence on the televizor," Fay ordered Kogo. "We'll forget Gorham until we know more what's up."

"You got girl on brain much often," Kogo observed, shuffling to the televizor board to make the connection. "Don't let girl make for you to forget Gorham."

Fay frowned thoughtfully. This was an angle he hadn't considered. If Gorham were really here in search of him, Fay realized, the hasty exit he'd have to make would mean more than leaving an eight year start on a new life. It would mean

more than leaving the prosperous mining game he'd built here on Planetoid Ninety. It would mean leaving the symbol, the essence, of everything fine he'd found in this new existence. It would mean leaving Dana Forester—the girl he loved—forever.

His lean young face was slightly strained, therefore, when he stepped before the glowing televizor board a moment later. Appearing against the orange luminance of the televizor screen was the face of Dana Forester. An oval face, framed by raven hair and centered by a pert little nose that wrinkled above an impish smile.

"Hello, Slade," Dana's voice was elfin, with the slightest husky undertone. "I was just going to get you. Our little old forsaken outpost here has been graced by a visitor, Garrison Inspector Gorham. He'll be here for several days, as Dad's guest, so I've cooked up a sort of welcome celebration for him this evening. Guess who's invited!"

Fay let out a deep sigh of relief. That was it. Gorham was here to inspect the garrison on Ninety. Then, suddenly he remembered that his face was visible to Dana. He forced a grin.

"You mean me?" he said. "Me, invited to the Forester mansion?"

Dana laughed.

"None other. And incidentally, what's eating you, Slade? You looked as worried as a Martian grizzly when you flashed on."

Fay sidestepped this.

"Am I worried now?"

Dana shook her head, eyes laughing.

"Nope. But I want you to be at the house by no later than eight. I'm saving the first dance for you. Remember now."

"It's a date, Dana." Fay's forced grin was still there. "See you then, space angel."

Kogo was watching him, as Fay turned from the televizor screen. Watching him with anxious button eyes. He shook his head sadly.

"What's wrong now?" Fay demanded.

The little Martian man-Friday sighed.

"Is no good. Is not smart. You should staying away from Forester place. Should staying away from Inspector Gorham. No take chance."

Fay grinned assurance he didn't quite feel.

"It's okay, Kogo. Gorham is a Garrison Inspector now. He's just making a routine call on the outpost of Ninety."

Kogo shook his head stubbornly.

"Kogo have things ready so we get out queek, should need to do so sudden maybe."

"We won't have to leave in a hurry," Fay grinned. "But if you insist on warming up a space ship all right, then go right ahead."

"Kogo insist. Kogo go ahead," the round headed little Martian declared. Then, shaking his head from side to side, he left. Fay watched the door close after Kogo. For a moment his eyes narrowed in silent speculation and his jaw went hard.

"Gorham," Fay muttered. "Whatever you're up to, I can bluff my hand as well as you can."

Then he stepped back behind his desk, sat down, and began leafing through the papers before him. The Space Hawk had disappeared once again, and now he was Slade Fay, quiet, thorough young radium mining engineer. A very different person . . .

AT seven o'clock that evening, Slade Fay left his small, comfortable quarters on the edge of the settlement compound, and strolled along the narrow main street of the little planetoid. Planetoid Ninety, though but an outpost of the radium mining chains in the Interplanetary Open Territories, was large enough to boast four capacity-working radium mines, a small settlement which housed earth dwellers residing there, and an outpost military garrison consisting of five Space Patrol Officers and seven space fighting ships.

Of the four radium mines, Slade operated the smallest, and Martin Forester—Dana's father—owned the largest. The other two mines were operated on a cooperative basis by seven or eight radium engineers settled on the planetoid. The Space Patrol garrison was an important—though very seldom called upon—part of the planetoid operations. It was the duty of the Patrol to protect Planetoid Ninety and other outlying radium bases from surprise attack by marauding space freebooters—pirates of the hrand Fay had once led.

In the eight years that Slade Fay had been on Planetoid Ninety, raids had been conspicuous by their absence. But then, after the mysterious disappearance of the Space Hawk from the pirate squadrons, the freebooters had apparently confined their raids to only the farthest outlying mining posts. Although attacks on these

other and less protected bases had been frequent during those eight years, their fury and success had diminished somewhat. Black Bart hadn't proved to be the brigand leader that the Space Hawk had been—not as daring, not as brilliant, at any rate.

But Slade wasn't thinking of the garrison in respect to possible raids from his former brigand comrades. He thought, rather, of Gorham's purpose in visiting Planetoid Ninety. It was quite possible, of course, that Gorham—now evidently promoted to the post of Garrison Inspector—had a legitimate and routine purpose in his visit here. But there could be more to it than that. There could be complications hinging on the intense dislike which Fay and Space Patrol Leader Stacy Leed felt for one another. Leed was Garrison Commander here on Ninety. And the hatred that had grown between Fay and Leed could be traced to the fact that they both loved Dana Forester.

Leed was tall, dark-haired, handsome. But he had had a blustering braggadocio—an affected devil-may-care attitude—about him which had made Fay dislike him instantly.

Space Patrol Leader Stacy Leed wore his Federation uniform like some people would wear a Federation Medal of Merit. His constant attitude toward Fay was one of tolerant amusement. In the year that Dana Forester had been here with her father, Leed had done all that he could to intimate that Slade Fay was a drab doormat, an insipid drudge to whom the very thought of combat in space was terrifying.

This, in view of the pose Fay had been forced to adopt, grew gradually more and more irritating. And it hadn't helped him much in his courtship of Dana. The girl had a strong affection for them both, Fay knew. But as yet, her attentions were equally divided.

In the last month, however, there had been more than a hint of a change in Stacy Leed's manner toward Fay. There had been no increase in cordiality, of course, but something closer to a growing suspicion on the part of Leed toward Fay.

Fay had told himself that he was just imagining this. He told himself that Leed could never learn anything that might lead him to probe into Fay's past. However, Garrison Inspector Gorham was here. And he might very well have been summoned by Leed, perhaps on a hunch.

BUT, fishing into his pocket for a cigarette, Fay pushed these suspicions from his mind and forced himself to assume his usually bland and unexcited manner. He adjusted the tunic coat of the quiet unassuming costume he had chosen for the evening, and after lighting his cigarette, went to the additional precaution of donning the spectacles he had affected during his eight years on Ninety.

The street was quiet and deserted, like most space settlement thoroughfares after dark, and Fay moved along unhurriedly toward the large residence of Martin Forester which lay at the other end of the compound.

When he reached the Forester residence, Fay could see, from the lights in the place, that Dana's welcoming celebration for Gorham was already well under way. Dana met Fay at the door of the wide, sprawling duraloid dwelling. She was laughing; she had a glass in her hand; and she was prettier than Fay had ever seen her before.

Stacy Leed, uniform resplendent and not missing a trick where his rival was concerned, had followed Dana to the door and now stood directly behind her.

"You're late," Dana said in mock accusation. "I'll bet you hate to tear yourself away from those charts of yours."

Fay smiled. But his eyes, which flicked momentarily to Leed, weren't smiling. He knew that, in less than five minutes, he would come face-to-face with Gorham. And then and only then would he know how the land lay.

Was there a glitter of expectation, of malice, in Leed's eyes when he added:

"Absolutely, Fay. We've all been waiting for your arrival. You have to meet our guest, y'know."

Fay let it go at that, and forced himself to smile and say something banal in reply. Then, with Dana at his side, he was moving through the spacious Forester living room where practically all of the Earth colonists of Ninety were gathered.

Dana's small, cool hand found Fay's once as they moved through the guests, giving it a reassuring squeeze. Fay could hear Leed, still with them, say:

"You'll enjoy meeting Gorham, old man. Not every day a rugged industrialist like yourself can meet a first-class fighting man."

Fay felt his cheeks grow hot under the scornful inference of Leed's words. But

he held himself in check and forced another one of those increasingly difficult smiles.

At the end of the room, standing beside the blocky form of old Martin Forester—was Gorham!

Fay had a wild impulse to turn, to lose himself in the crowd before Gorham saw him. But then he steadied himself, praying inwardly that the sudden fear he'd felt hadn't been noticed by Dana or Stacy Leed. Apparently it hadn't for Leed was saying something to Dana and neither of them had been looking at him in that instant.

"There's Garrison Inspector Gorham," Dana said, "standing beside Dad. Come on, Slade, I want you to meet him."

Fay smiled and nodded.

"Might as well. I don't want to offend your guest of honor."

Stacy Leed was silent. But he stood beside them when Dana, holding lightly to Fay's arm, introduced Gorham.

"This is Slade Fay, Inspector. And of course you know Stacy Leed, Inspector."

AS Fay grabbed Gorham's outstretched hand, his eyes met and held with those of the gray-haired, uniformed garrison inspector. Gorham had been eight years younger the last time Fay had glimpsed his face. And that glimpse had been gotten while riding the tail of Gorham's rocket fighter in an effort to send him downward through space as a blazing cinder. Yes, Gorham had been younger then, and Fay had seen his face, coolly turned to look back at him, behind the glass turret of a space helmet.

But Fay remembered, even to the expression in Gorham's slate gray eyes, to the cool quirk of amusement that twitched the corners of that straight mouth beneath the neatly trimmed gray moustache. Fay remembered with surprising vividness and wondered if in those cool gray eyes there wasn't a hint of similar recollection.

"Glad to know you, Fay," was all that Gorham said, however. "I'll be seeing more of you, I hope. Intend to be around Ninety for several days, you know."

Then, somehow, Fay managed to steer Dana away, leaving Stacy Leed with Gorham and Martin Forester. Music had started, and it was with vast relief that Fay took Dana in his arms and moved onto the small circle that had been cleared for dancing.

He kept Dana between himself and Gorham's group, watching as best he could without attracting suspicion, if there was anything passing between Gorham and Stacy. But the trio of Stacy Leed, Gorham and Martin Forester didn't seem to be noticing them, and for the first time since Kogo's announcement of that afternoon, Fay felt as though the ground beneath him were more secure.

"I don't know, Slade," Dana was saying, "what seems to be wrong with you, but you do seem preoccupied about something or other. Has anything gone wrong at the mines?"

"Perhaps I'm getting senile, business crazy," Fay grinned disarmingly. "But, for the life of me, I swear I haven't been deliberately worrying about anything." Which, he realized as the music stopped, was at least half the truth.

A hubbub of conversation started, then, drowning out Dana's reply. And in the next moment, just as the music started, Stacy Leed stood before them.

"Mind?" he asked, voice directed at Dana, eyes at Fay.

Fay caught Dana's glance, was about to speak, but Leed had already encircled her waist with his arm. Fay shrugged, and stepped back off the dance floor.

And at that moment someone began pounding loudly, insistently, on the door of the Forester residence. People looked up, but the music continued. It was old Martin Forester, followed by Gorham and several others, who moved swiftly across the room toward the insistent pounding.

The door was visible to all in the room, and when Martin Forester opened it, Fay was startled to see an exciteded wire-phone orderly from the Space Patrol garrison moving excitedly into the room and talking rapidly to Gorham.

Gorham's jaw set, and Fay could see the look of shocked surprise register on Martin Forester's features at the fellow's words. Gorham half-turned, facing the section of the room where the dancers were.

"Space Patrol Leader Leed," he shouted, "come here!"

Fay saw Leed frown, then leave Dana, hurrying through the crowded room, acutely conscious of his bedecked uniform. Then, Dana, seeing Fay, came hurriedly over to him.

"What's happened, Slade?" There was

anxious concern in Dana's voice.

Fay shook his head.

"I don't know." He grabbed Dana's arm. "Come on, let's find out. Something serious, obviously." A moment later, and they were part of the circle around Gorham, the garrison wire-phone orderly, Leed, and Martin Forester.

It was Gorham who held up his hand, calming the clamor and questions from those in the room.

"Take it easy," he said. "Nothing terribly serious. Nothing to affect any of you immediately, at any rate. One of your neighboring planetoids—number Eighty-Seven, to be exact—has been attacked by Black Bart's pirate squadron. The defenses of Eighty-Seven need what help we can send them."

IT was Leed who spoke now.

"We've four ships, and we can spare them all. We've men enough to man them. There'll be time to arrive at Eighty-Seven before Black Bart's crew can wreak any havoc."

Fay started to speak, then he saw the admiration that flashed into Dana's eyes at Leed's last words. But it wasn't because of that that he checked himself. It was because Black Bart, the brigand who'd taken over the freebooters after he'd left eight years before, Black Bart, who was at this very moment carrying out precisely the same clever mode of attack that he, Slade Fay—alias the Space Hawk—had devised in many of the raids he'd conducted in his freebooting days. For Fay was morally certain, deadly certain, that Black Bart was creating a disturbance over Planetoid Eighty-Seven merely to draw Planetoid Ninety's defense forces away.

It was sickeningly simple. Once Leed and his small squadron left for Eighty-Seven, once Planetoid Ninety was left unprotected, a squadron of Black Bart's raiders would swoop down on the defenseless outpost, collect its plunder, and be off before Leed's forces could return.

Fay was certain of this because he, himself, had devised the scheme almost ten years ago. And now Black Bart was resurrecting it again. And from Leed's announcement, and from the agreement he saw on Gorham's face, Black Bart was employing the device successfully!

Black Bart didn't concern himself merely with plunder. Bart was ruthless, and blood-lusting. His depredations had often caused arguments between Fay and himself in the old days. Fay had been able to hold him down, then. But there would be no rein over the huge brigand's passion for carnage this time.

Fay bit deep into his lower lip, his hands unconsciously clenching into fists at his side. He had to stop this scheme of Leed and Gorham. Had to stop it before it was too late. There was no real danger for the inhabitants of Planetoid Eighty-Seven, Fay knew. There was no real danger because—according to the strategy of Black Bart's plan—the force harassing Eighty-Seven was ridiculously small, dummied out to appear as being of great strength. According to Black Bart's plan, the really deadly squadron of raiders was that which was probably right now skulking within electragun distance of Planetoid Ninety.

"Wait a minute!" Fay heard his own voice speaking before he was conscious that he'd uttered the words. There was a swift silence of wondering surprise, and Fay could feel everyone's eyes fixed questioningly on him.

"It's stupid, and needless, for us to send our Patrol to the defense of Planetoid Eighty-Seven. Utterly stupid. There's no real danger of Eighty-Seven being actually looted. It's a trap, a lure, on the part of Black Bart to draw us away from the essential defense of our own base." Fay was conscious of the incredulous expressions on the faces around him, of the scorn in Leed's eyes.

"And what," Stacy Leed said acidly, "do you pretend to know about space patrol maneuvers, or space fighting, for that matter? I think we can do without your sage advice, Fay." He paused. "Your fear of a raid on your mining deposits can be appreciated," his sarcasm was obvious now, "but there are women and children on Eighty-Seven whose lives are more important than financial interests. Or," he added venomously, "the interests of your own hide."

THE muscles in the corner of Fay's jaw hardened, and he started a hot reply, but Stacy Leed was continuing mercilessly, squeezing every last drop out of this situation which allowed him to make Fay appear craven in the eyes of Dana Forester.

"If less of your type of meddling citizenry were around to run at the mouth,"

Leed said caustically, "we of the Space Patrol would find our job easier. You drab, mousey devils are always the kind to figure you know everyone else's business as well as you know your own. Well, my business happens to be a tough one, Fay, one which I'm sure you and your ilk wouldn't like very well. It's a business that takes stuff known as courage, not to mention a little brains. But of course," and Leed's voice grew even more caustic, "I can't blame you for not knowing much about courage. After all, a man who is perfectly willing to risk the lives of women and children on another planet, in order to keep his own hide intact, can't be expected to know anything about courage—or decency!"

Fay stepped forward, eyes blazing, fists clenched. But Gorham, at that moment, stepped between Fay and Leed.

"Easy, Fay," Gorham said quietly, "that won't help anything." Then, to Leed: "A little less rancor would be a better attitude, Patrol Leader. Fay, here, just advanced a reason for another course of action. That shouldn't bring down a tirade."

But Leed, carefully watching Dana's strained face, suddenly smiled. He could afford to be magnanimous now that his below-the-belt punches had irrepairably damaged his rival.

"Perhaps you're right, Inspector. Fay's bland disregard of military tactics can probably be excused through his ignorance of them. I apologize for that part of it, although I can hardly excuse the gentleman's lack of concern for the women and children on Eighty-Seven."

Fay fought to keep control of himself while he said:

"There are women and children on Planetoid Ninety, Leed, remember that. I'm only trying to tell you that I think you're acting rashly, heedlessly, and leaving this planetoid wide open to attack through your stupidity!"

Stacy Leed's face went dark.

"If you weren't the weakling that you are, and if I hadn't urgent business elsewhere, I'd take time off and remove my uniform long enough to teach you an unpleasant lesson!"

Gorham broke in again, before Fay could reply.

"Patrol Leader, enough of his squabbling! Need I remind you that, no matter what course of action you choose, there is a decision to be made? That decision is the important matter at hand!"

"You're right, Inspector," Leed said, blandly smiling again, "this is no time for me to be swatting flys."

Fay felt the blood pounding to his temples. Someone in the crowd laughed unpleasantly. The only face on which there was not written contemptuous derision was that of Gorham, who seemed to be measuring Fay with that coolly appraising gaze of his. Fay wanted to blaze forth with the truth, wanted to tell them why he knew what he did, and why his information was positive. And then his eye caught Dana's, and the look she gave him was unbelieving, disappointed, hurt.

He felt a sudden growing surge of rage, and his jaw clamped shut. He knew that to them, to everyone present, he was but a bespectacled, slender blonde with an utterly unheroic status. He'd played his self-adopted role too well during his eight years on Ninety to convince them that he was anything but what he had wanted them to believe he was.

And a revelation of the truth would shatter his own life, his own hopes and ambitions, utterly, completely; would end it on a gallows. So Slade Fay, shoulders suddenly slumping, held his tongue.

GORHAM suddenly spoke.

"Perhaps there's not as much nonsense in what Fay says as you'd like to believe, Leed. Consider his reasoning first."

There was a murmer through the crowd. Although Gorham was a higher ranking Federation Officer than Leed, he was merely on an inspection tour, and in that capacity had no command over any individual base. All he could do in the present situation was what he was doing at the moment, serving as advisor. The final command of Ninety's garrison lay in the hands of Leed. But the handsome, dark-haired young Space Patrol leader was inflamed by the reception his first words had gotten from the crowd. Obviously, now, his most desirable course of action was the immediate rocketing of his squadron to the aid of Eighty-Seven. It was reckless, courageous, daring—a fine gesture for a gallant young officer. He shook his head.

"I'm afraid there's only one course open to us, Inspector Gorham. We'll go to the immediate aid of Eighty-Seven."

The swelling noise of approval from the

crowd, and the look in Dana Forester's eyes was reward enough for Stacy Leed. Turning dramatically, he walked to the door. His fellow officers had left their groups, and were now beside him.

Fay, watching all this, realized sickly that Dana had left his side, and was saying goodbye to Stacy, while old Martin Forester, giving Fay one swift glance of scorn, was pumping the hands of the other officers beside Leed.

As for Gorham, he fished calmly into his pocket, found a cigarette and lighted it. The expresison on his face hadn't changed. His eyes were on Fay, questioning, and, for an instant, Fay forgot his immediate problem long enough to wonder how much Gorham really knew.

There were few among those who had been gathered at the Forester residence who didn't follow the Space Patrol down to the landing base to witness the take-off of the squadron.

Stacy Leed, preparing his Flight Patrol for the take-off, was like an overly obnoxious athlete playing to a grandstand. And while he checked over the fighting gear on his ships and mapped out orders for his men, he swaggered back and forth with braggadocio that would have done credit to an actor. And what made matters worse for Fay, was the fact that it was Dana Forester who said the last goodbye to Stacy Leed when the patrol leader climbed into his space fighter.

It was but five hundred yards from the space landing platforms to the squadron hangers, and as the five space-fighting ships rocketed from the landing platforms out into the void, Slade Fay anxiously paced back and forth before the hangers, smoking one cigarette after another.

"I should have stopped them," he muttered savagely. "If I'm right, and I'm dead certain that I am, Black Bart's squadron will be done on us inside of an hour." And then he cursed himself miserably for not having made a stand of it, not having declared himself at any cost.

Someone tapped him on the shoulder, and Fay wheeled, startled, to face Gorham. He was unsmiling, still with that questioning expression on his face.

"I'm afraid our young Space Patrol leader is somewhat hot-headed," Gorham said dryly. "I might have tried harder to override his judgment, but I knew it wouldn't work." Then, casually, he added, "For a mining promoter you seem to have some advanced ideas about space battle tactics, especially from Black Bart's viewpoint."

"What do you mean by that?" Fay's voice was edged, tense from the strain he felt.

"Just what I said," Gorham replied "You know, I have the darndest feeling of having met you somewhere before, Fay. Although, to be utterly frank, I can't remember where."

Fay felt his heart hammer hard against his ribs. Gorham *was* suspicious, then. But still, with matters as they were, he could never prove enough even to put Fay on trial against a gallows sentence. Fay bit his underlip before replying.

"Perhaps you have. I've been around."

THE last of Leed's squadron had left, now, and the crowd was moving toward the hangars. Some collected around the wire-phone shack, where the excited orderly sat beside a phone-avisor, getting bulletins from Planetoid Eighty-Seven, and relaying to them the information that the rescue ships were on the way.

Fay, keeping away from the crowds, was pacing back and forth with increasing desperation, lighting one cigarette after another. Gorham had left him to go over to the wire-phone shack, and Fay could see Dana over there also. Once she turned, and he was certain that she saw him. But she made no move to come toward him. Fay clinched his fists angrily at the agonizing thought of what might happen to Dana should Black Bart and his squadron swoop down upon them.

And then, after perhaps an hour had passed, there was the sudden deafening detonation of rocket exhausts, and a black, single-seater space ship drove screaming down over the wire-phone shack, proton cannons blasting.

There was a horrible bursting of orange flame, and the shack exploded from the blast of the guns. Some of the men and women who had been grouped around the shack screamed wildly, and Fay knew that the raider's guns had deliberately included them in his range.

Black Bart's squadron was sweeping down from the inky void above them. Was sweeping down, and had already destroyed Planetoid Ninety's only chance of communicating with Leed's departing patrol.

They were trapped, helplessly trapped, just as Fay had feared they would be!

Other space fighters—also single seaters—were swooping down, loosing the terrible orange flame of their proton guns on the milling crowds, driving everyone to shelter. This, too, was part of the technique as Fay knew it. Once the inhabitants of an outpost were driven to shelter, the raiders could land unmolested.

But Fay had ground out a cigarette savagely beneath his heel, his jaw gone hard with sudden determination. He raced down to the door of the hanger at the bottom of the hill, pulling it open frantically. There, in the darkness inside, was a single-seater Space Patrol ship.

He shouted to several men running past the hangar, and with their help he was soon rolling it out onto the landing platform runway. As he was hastily checking the rocket discharge indicators, a hand grabbed his shoulder, spinning him around. Gorham faced him. Gorham, with his temple bloody against his gray hair, his face no longer calm.

"What in the devil do you intend to attempt?" Gorham demanded.

"What in the hell does it look like?" Fay snapped back. "I'm going up there, into the void, and not to sell radium deposits. Do I make myself clear?"

Gorham looked wordlessly at Fay, that same measuring gleam in his eyes. His jaw set grimly.

"This is fighting equipment, Fay, and it takes a good man to use it."

"Obviously," Fay snapped. "I know what I'm doing!"

Gorham stood there, regarding Fay silently, a contemplative look on his face. Then he turned quickly on his heel, barking one sentence over his shoulder.

"There's another one of these, so roll it out!" was all the Inspector said.

While they were rolling out the remaining Space Patrol ship for Gorham, he turned to Fay.

"I've got a hunch where I saw you before, and when," he said tersely. "Maybe I'm right, perhaps I'm wrong. But you don't look like a mining engineer when you're checking instrument board indicators!"

Fay looked up but once.

"Perhaps you're right," he said. And even as Gorham trotted over to the other space fighter, Fay felt the tightening of a noose around his neck. Once up in space, once working his proton cannons, Gorham would have enough damning evidence against him to send him to hell for eternity.

SOMEONE handed him a helmet and space gear.

His hesitation before climbing into his space fighter was only momentary, and was dispelled at the thought of Dana in the hands of the stinking devil who was Black Bart. Then he was behind the controls. Behind the controls for the first time in eight years; his hands caressing the familiar trigger-end of proton cannons once more.

"Chief, queek. Make it for me room!"

Fay looked up, startled, to see the round head of Kogo poking into the cabin. Kogo was clad in space gear.

"You know who's up there, Kogo?" Fay demanded.

"Pirates, Black Bart," Kogo said grinning delightedly. "They try to bother decent citizens like you, me. We fix 'em, eh, Chief?"

"You can stay out, Kogo," Fay said, "and avoid the noose. We'll be tagged properly after this performance if we come back."

"Kogo got strong neck," was all the little Martian said. And Fay felt a sudden lump in his throat as he answered:

"Climb in, then!"

Black Bart's raiders had tried to prevent their taking off, but somehow Fay's and Gorham's fighters were rocketing off into space unmolested. Excellent maneuvering on the part of both of them had enabled them to avoid the electraguns and proton cannons of Black Bart's raiders as they climbed voidward.

Then they were in the thick of a unit squadron of Black Bart's ships. Two ships were above Fay, diving down, and two more were beneath him, rocketing upward. When each found range, they unleashed their forward proton cannons. The orange puffs of flame merely scorched Fay's tiny fighter, however.

Kogo gulped.

"Pretty damn close, Chief!"

And then Fay's fingers pressed the triggers of his front guns at precisely the right second. One of the two ships above him burst into an orange puff of smoke and blazed downward. Blazed downward, and straight into the upcoming pirate ship be-

neath Fay's fighter. The two met with a horrible wrenching of burning metal, and together tumbled downward.

"Chalk two right off," Kogo chattered happily.

The other two space ships that had been harrying Fay zoomed suddenly sideward, getting hastily out of range. Fay had time to take a sideward glance to his right, where he saw Gorham's ship hemmed in by three of the brigand squadron. One of the three brigand ships was totally black, an orange streak slashed down its side, and Fay's heart did a sudden side-slip as he recognized the personal insignia of Black Bart. Diving at a screaming right angle, Fay swept down on the group harassing Gorham's ship.

He came up unnoticed and behind the tail of a pirate fighter who was at that instant angling in broadside to Gorham's space craft. It was short work, and the poor devil was plummeting downward after three electragun bursts from Fay's side mounts.

"Chalk three," Kogo gurgled happily.

AND then, side by side with Gorham's ship, Fay climbed out of immediate range of the six remaining brigand ships. He connected his voice panel with Gorham's for the first time.

"Three down," he shouted. "How many did you manage to get?"

"Same," Gorham's voice came back through the instrument board receiver. "That gives us six out of eleven."

"Black Bart is still circulating," Fay cut in. "He's mine, don't forget."

"Okay, *Fay*," there was irony or sarcasm in Gorhams voice, Fay couldn't tell which. But behind either there was admiration. The admiration of one gladiator for another. But Fay didn't give a damn about Gorham and the noose he held ready. Nothing mattered now but this immediate battle. It had always been that way with the Space Hawk.

And now, dropping the nose of his single-seater, he rocketed into a screaming grav dive that pushed him back against his seat until his ears were ringing and his nostrils ran crimson. Beneath the trigger sights of his proton gun was the black fighter ship of Black Bart.

But the brigand leader had seen his dive, and now rolled over and out of range. But Fay, his reflexes acting with the precision of eight years ago, kept hard on his tail. Now he opened with his proton cannons. But Black Bart still was out of range.

Then, from out of nowhere, there were two brigand ships on his own tail, and Fay could feel their electraguns scorching close to his cockpit. Suddenly, the chatter of their electraguns ceased, and Fay took one look over his shoulder to see Gorham's ship zooming upward from the kill. Two blazing space ships dropped swiftly downward as a result of Gorham's deadly marksmanship.

Fay switched on his voice panel again.

"Gorham?" he shouted.

Gorham's voice came back to him.

"What is it?"

"This is mine from now on—you promised, don't forget." Fay answered. "Get in position to keep the remainder away from me while I take care of Black Bart!"

"It's as good as done," Gorham's voice answered. "Good luck and go to it!"

Fay made an adjustment on his voice panel box, an adjustment that would put him on the wave band of the pirate craft. Then he was talking, clearly, forcefully.

"Black Bart," Fay called. "Black Bart!"

There was an answering, inaudible static, and Fay knew that the brigand chieftan had picked up his call.

"Black Bart," Fay repeated, knowing that the remaining pirate craft all could hear him, "this is the gauntlet, Bart, the challenge!"

And then Fay grinned grimly, for he knew that the pirate commander, as well as the freebooters in the remaining outlaw craft, all had heard the challenge, and all knew that someone who was once of their kind was demanding a death-duel according to the unwritten law of their kind.

"It's the gauntlet," Fay repeated, "thrown from the ship on your tail. Level out, you bloodthirsty scoundrel, and prepare to battle. I'll ride my ship free and give you time to set yourself!"

The challenge was heard, that much was obvious now. And that it was accepted was also apparent, as Fay saw Black Bart's black, orange-slashed ship suddenly level off and start in a wide arc that would bring it around facing Fay's craft. Fay, too, pulled the nose of his ship up into a half-stall, and then back into line with the black, orange-striped ship of his adversary.

Kogo was babbling excitedly, now.

"Oh, yak, yak, yak, these make great

excitement for me. We blaze Black Bart, eh Chief?"

Fay's jaw was grim.

"I hope so, Kogo. I hope this makes excitement instead of a shroud." He was thinking of the eight years rust that was his disadvantage in the battle to come. It hadn't shown yet. Indeed, his tactical maneuvering, and reflex timing seemed better than it had ever been.

But he might have been riding on a lot of luck until now. And too, Black Bart had been fighting in space during the years Fay had been inactive, and Fay wasn't certain how great the burly brigand's skill now was. He was certain, however, that this Black Bart would be far superior in space combat compared to the Black Bart of eight years ago. The inevitable laws of time and experience guaranteed that much.

But the challenge had been hurled. The black space fighter had squared off for a combat to the death!

MENTALLY, Fay was running through countless maneuvers he had used in his space fighting days. Maneuvers based on skill and cunning, made to draw an enemy into a futile defense of his weakest points. Fay had always planned his tactics—like a superior chess player—three or four moves in advance.

But first he would have to test Black Bart, size him up, determine the flaws in the brigand's tactical armor. Fay hauled on his trottle, giving his tiny space fighter full rockets, and blasted into a steep climb. From his visor board, he could see that Bart's black ship was following him upward, unwilling to be outclimbed.

In the middle of his climb, Fay snapped his controls hard to one side. The swiftness, and unexpectedness of the move pulled him close to—but not within range of—the black, orange-slashed belly of the enemy space craft.

The move worried Black Bart. This was instantly apparent by the sudden leveling off of the ebon craft. And Fay took instant and cunning advantage of this by carrying his climb slightly higher and leveling off above his adversary's craft!

Fay was above him now, the first step in his maneuver being successfully completed. Looking quickly at his visor board, Fay saw Black Bart's craft rocketing swiftly to the right, in an effort to get out of range.

Turning the nose of his ship downward, Fay gave it full power and slipped it into a screaming dive. A screaming dive that brought him down onto the tail of the black ship with incredible speed. Now, at precisely the right instant, Fay opened up with both proton cannons, sending flame-splashed death hurtling after his opponent.

But Black Bart was an old hand at space fighting; a sudden, counter-climb climaxed by a snap-roll brought the black ship out of range of Fay's cannon. But as Fay followed upward, he could see that his blast hadn't been without damage. The rear rocket tube on Black Bart's craft was disabled.

This, however, meant little, for Black Bart's craft suddenly climbed again with amazing grav pull, and a moment later Fay experienced the unpleasant realization that Bart was above him, setting for a dive down on his tail.

"Not good," Kogo squealed sharply. "Black Bart come queek soon, watch it!"

But Fay didn't give his enemy a chance to set for the inevitable dive. He took an immediate, and strategically clever offensive, pointing the nose of his ship upward in a steep climb toward the ebon belly of Black Bart's space fighter. The maneuver caught his adversary napping, and Fay brought the electraguns into play, now, sending a sweeping stream across the belly of the black ship.

But a quick-thinking roll on the part of Black Bart, brought the brigand leader around in position to open up on Fay's craft with both proton cannons on its side mounts.

A shuddering concussion at the rear of his little ship told Fay that his enemy had scored twice, negating two rocket tubes. Smoke was already scorching up to the nose of the little craft, and Kogo, coughing harshly, chattered:

"No good, now. No good. Make same on him!"

The muscles in Fay's jaw were bunched, and he planked his fighter nose-down in a sudden dive to escape the searing heat of Black Bart's guns. Then, rolling sharply over, he climbed again. Sweat was streaking Fay's face, and the smoke sooted over it, clouding his vision.

Black Bart's ship had arced wide, being unable to follow Fay's sharp maneuver, and Fay took advantage of this to start another climb. On the instant he leveled out, Fay, playing but three rocket tubes, fell into a

grav dive that dropped him with sickening swiftness through the void, directly down toward Black Bart.

It was an age-old trick of Fay's, and no one ever dared to wait him out to see if he really intended to crash their space craft. Black Bart was no different. With an orange burst of rocket flame, he high-tailed it downward in an effort to get out from under Fay's falling craft.

Fay threw the rockets full throttle, now, and crept slowly up on the black space fighter with the orange streak on the side. Black Bart was streaking his ship downward in an effort to lose Fay, but suddenly the brigand leader came sharply out of his dive.

Fay was still on his tail. No one had ever shaken the Space Hawk that easily before, and they weren't going to now.

Fay had been looking up over his shoulder, out of the cowling mirrors, at Gorham's ship for a moment, and the sudden sharp turn on the part of Black Bart's ship took him unawares. The black space fighter was now hurtling straight at him, proton guns blasting firey death.

Instantly, Fay's guns answered. And his hand tightened on the controls, almost freezing them, as he held his own hurtling craft on a direct line with the brigand leader's.

"It's you or me, Bart," Fay muttered tensely, and then, with split-second timing, he triggered the electraguns. Black Bart's ship burst into flame a scant hundred yards away, but Fay didn't have to veer off. The pirate craft dropped suddenly downward, a sickening twisted, burning meteor!

THERE were two remaining pirate craft. Gorham bagged one, and Fay cleaned up the other as it tried to make a run for safety. Kogo was counting incessantly, delightedly, from one to eleven.

"That Gorham," he remarked naively to the weary Slade Fay. "He make one damn good space pirate, huh?"

But Fay was too weary and sick inside to smile. He flicked on the voice panel.

"Gorham?" he said. "Naturally you know now where you saw me before."

Gorham's voice came back flatly.

"I think I do, Fay, in fact I'm sure I do."

Fay's voice held no bitterness.

"We could make a run for it," he choked, "but what the hell, it makes no difference now. I'll follow you down on one condition—that you forget about Kogo. He's never done harm. He's about as menacing as a mascot." Then, dully: "This will make it quite a day for you, Inspector."

Gorham's voice came back.

"Quite a day, I agree with you. Don't worry about Kogo, just follow me down." Fay wiped the sweat from his face and nosed his ship in behind Gorham's, marveling at the stern relentless sense of duty that ruled men of the Federation. Kogo kept up an incessant, happily unaware, chatter. . . .

THE citizenry of Planetoid Ninety swarmed in around the occupants of the two space-fighting craft as they emerged from their ships and stepped onto the landing platform. But Dana Forester was the first to reach Fay.

"Slade, Slade," she said huskily. Then, unashamed, she threw her arms about him. "Oh, Slade," she murmured, "I've been such a stupid fool. You've no reason to forgive me for what I thought, but I can at least ask you to do so."

Fay felt a sick nausea assail him. Here was Dana, at last, as he had always hoped she would be—his, beyond a doubt. But now she would never be his.

Through the press of bodies around him, Fay could see Gorham, still utterly, calmly, inscrutable, advancing toward him. Looking down at Dana, Fay fought for words, groped for some way to tell her that this was the final scene for him.

"Fay!" Gorham's voice carried above the others. Then he was before them, looking first at Dana, then at the sooty, sweat-blackened Fay. His eyes were still unreadable, untraced by emotion of any sort.

Fay put one arm around Dana's waist, lips twisting bitterly as he faced the man whose prisoner he was.

"There's no need to tell Dana about this, Gorham. I can do that, if you please."

Gorham's eyes were still fathomless, but the corners of them wrinkled as he spoke.

"Tell her about what, Fay? Tell her that your battle up there was like nothing I've ever seen before, with the possible exception of a fracas staged by a chap who used to be called the Space Hawk?" Then his face creased in a great grin. "Or should I tell her that she's soon going to be the wife of a man who greatly resembles a chap I encountered eight years or so ago?"

(Cont. on page 130)

When Time Stood Still

By PHILIP JAQUES BARTEL

This story, whose scene is laid in modern Russia, gives a picturesque description of advanced work in science and tells of the results attained. It has a great deal of atmosphere and, while it is not the first story using a Russian motif, it is very distinctive. The author has published a number of stories and we are sure that this will rank as one of his best.

THREE men of science, hearts trembling with hope, stared at the gigantic mechanism before them, with eager eyes. One question was in all three minds. Would this, their latest effort, also result in failure?

Slowly the powerful steam turbine began to function. As they watched, the speed of the rotor of the Two-Pole Turbo-Alternator increased, from Three Thousand Revolutions per minute to Ten Thousand. Fifteen Thousand to Twenty Thousand.

A white vapor appeared slowly filling the large room. At this sign of danger, the youngest of the men present, dashed to a switch. Before he could break the circuit, his associates uttered a cry of warning.

It was too late. A dazzling light burst forth in their very faces, and the smell of burning insulation accompanied by the familiar odor of ozone, attacked their throats.

When the flames had been extinguished and the air cleared, they examined the ruins of the turbine.

Peter Mikhailloff, the eldest, pushed back a stray lock of his gray hair and sighed.

"Gentlemen, again we must begin anew." He turned to the young engineer at his right. "Earl, I had hoped to show you a successful demonstration, but once more as you see we have failed."

Before Earl Lyons could reply, the third member of the trio, Vassily Khalin, Vice-Commissar of "SOVERG," the Bureau of Energy, impatiently addressed him:

"Comrade Lyons, the Soviet Government underwent considerable expense to bring you to Russia. You've seen our problem. What solution can you offer?"

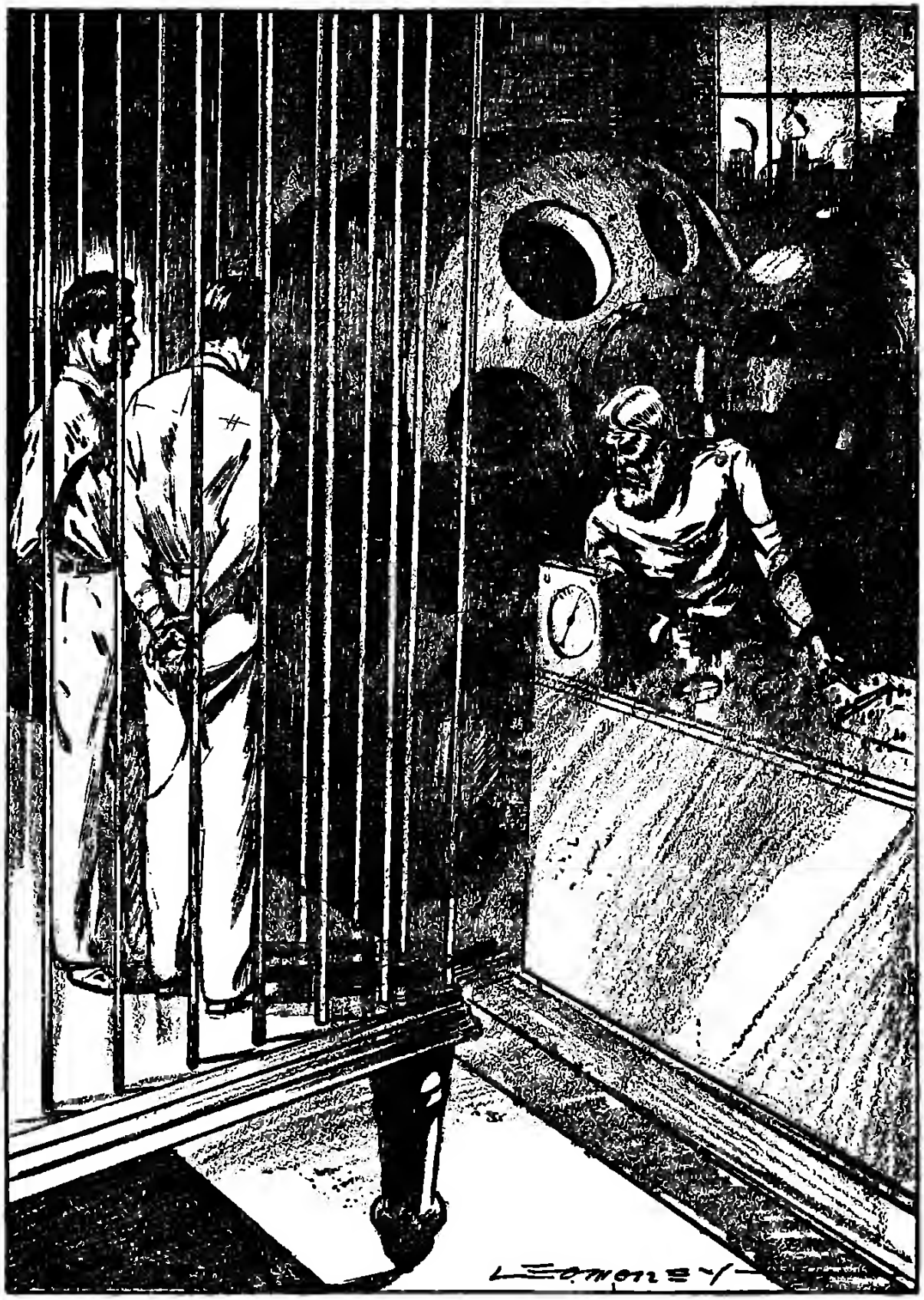
Earl scratched his blond head and replied: "At Schenectady, in the General Electric Laboratories, we tested the maximum capacity of steam turbines with almost the identical results. We've had the greatest difficulty preventing the destruction of the rotors of large turbo-alternators. There were two factors to consider.

"First, the enormous stress set up at peripheral velocities in the neighborhood of 50,000 feet per minute and upwards. Second, the danger of injury from high temperatures due to friction."

"How did you overcome these handicaps?" snapped Khalin.

EARL looked at him curiously. The Russian was fast losing patience. Mikhailloff smiled and patted his shoulder. "Quietly, my friend this is no time for irritability. Be patient. Our American colleague is here to help us."

Khalin smiled sheepishly and offered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his hand to Earl: "I'm sorry, comrade, but we're almost unnerved. If we don't show some progress soon, we'll be accused of sabotage."

Earl knew what that meant. Court-martial and a rifle squad.

"I think I see an answer," he remarked. "What we need is adequate ventilation of rotors. In our next model we'll install chilled water ducts to prevent overheating, and for our insulation, we'll use mica which is non-combustible."

Khalin's eyes lit up with hope. "If it works, we'll have a series of twelve generators in operation, in three months."

Mikhailloff's wrinkled face beamed with satisfaction. "Then, my friends, we shall see—what we shall see. Fifty years of study and research, and I am almost ready to grasp the fruits of success.

"I still remember the superstitious look on Alexander II's face, when I whispered my idea to him. Then it was but a dream. He readily gave me funds to continue, and when in 1890 Alexander III threatened to discontinue his support, a word in his ear, changed his mind.

"Romanoff Czars gave place to Kerensky, Trotzky, Lenin and Stalin. After hearing my plans, all gave a helping hand. Political control means nothing to me, as long as my work is undisturbed."

Earl listened to the old man's enthusiastic speech, with admiration. What obstacles he must have overcome?

Khalin shrugged his shoulders. "Tell me comrade Peter, was the secret police of the Romanoffs as effective as our own Gay Pay Oo?"

Before Mikhailloff could answer, a tinkle of laughter was heard. All turned to see who had dared to intrude.

Standing in the doorway, modishly dressed, was an attractive brunette.

Khalin's face took on an unnatural pallor.

Earl smothered an exclamation of annoyance. Mina Boyarsky, agent of the dread G. P. U., had dogged his footsteps ever since he had entered Russia. She had persisted in seeking his company. Perhaps if she had displayed an iota of maidenly shyness, he would have shown greater interest in her. But her official position and her modernistic forwardness repelled him.

"Come in, my daughter," invited Mikhailloff.

Khalin hoped she hadn't heard any of his careless remarks.

"Good day, comrades," she smiled. "And how is our American engineer, this morning? Has your infinite experience with Edison in America and Vickers in England helped you here?"

Earl bowed to hide a grimace of embarrassment. "You are here at the right moment, Miss Boyarsky. I was about to ask Dr. Mikhailloff to remove the mask of mystery from our operations and let me in on his secret. Perhaps you'll back up my request?"

Mina Boyarsky approvingly looked at his tall, athletic body, his well-shaped, fair head. This American engineer couldn't be very intelligent, she mused. He was too good-looking.

"My orders from the Central Bureau," she replied, "are to act purely as a news reporter, not an advisor. Comrade Mikhailloff is free to do what he pleases."

The old man cleared his throat: "In 1879, I completed a course in Physics at the Kaiser Wilhelm Institute in Berlin. This University later graduated two of the world's foremost scientists. Lorentz and Albert Einstein. I returned to Russia entranced with one idea. I could not accept the general explanations of the relationship between space and time. The commonly known three dimensions, length, breadth and thickness, were easily

understandable. But the fourth dimension, that of time, seemed to have been sadly neglected by the authorities of my day. I determined to search for myself.

"I know you gentlemen are following me easily, but Mina may be having some difficulty. Permit me to elucidate. Let us assume a motor car or any other moving object, as at rest at a given spot. We know that it is ten feet long, four feet across and six feet high. There we have the three ordinary dimensions of the automobile. To the layman, we have given all the description necessary. But to the physicist, our description is incomplete. We have omitted to give the necessary fourth dimension. *When*, or at what time, this automobile was resting at the given spot!"

Mina Boyarsky's large brown eyes dilated with interest.

Vassily Khalin looked mildly interested, but Earl felt that an astounding announcement was imminent.

Mikhailloff continued. "You see, Mina, if the motor car was here at twelve o'clock noon, the other dimensions have a value. But if the car was elsewhere at that time, the value of any further dimension is nil. Every object must have this auxiliary dimension or we cannot grasp its entire meaning. But let me go on.

"Aided by plenty of funds, at the turn of the century, I received my first encouragement. I constructed a small turbine generator and by using its voltage to bombard an insulated electric field, I succeeded in robbing an object of its fourth dimension! For this object, time had stood still!"

Earl and Vassily stared at the old man in amazement.

Khalin grasped his thin shoulder. "Do you mean it vanished from sight?"

Mikhailloff nodded his head. "Not only became invisible to the eye, but when I attempted to locate it with a hard rubber rod, I failed to even *feel* its presence!"

The American was amazed. "You mean, you robbed it of its first three dimensions, don't you?" he cried.

"Correct, my son. It all depends on your point of view."

Mina felt for her note-book and filled line after line with her neat handwriting.

A puzzled expression came over Earl's face. "But, I don't understand. Why do we have to bother with steam turbines? Why not tap the tremendous power of one of the new developments such as at Dnieperstroy?"

Mina raised her head from her notes and interrupted. "I can answer that, Comrade Lyons. The Central Committee decided that our project be kept secret. The importance attached to Comrade Mikhailloff's operations was recognized early in our administration. We have plenty of laborers. By isolating the entire district, you can proceed with greater safety."

The nervous Khalin arose from his chair and drew a blue-print from his coat. "We should get to work immediately if we are to try out Comrade Lyons' suggestions. Time is short."

Mina smiled approval. "I'll be glad to report your zeal, Comrade Vice-Commissar." With a bold glance at Earl she left the room.

Earl gazed after her pensively. Mikhailloff concealed a smirk. "Ah, the new Russian Woman," he sighed, "how different from my time?"

THE day of the great experiment was at hand. Earl's ideas had been incorporated in the new series of generators with the greatest success.

Gathered at an instrument board were Mikhailloff, Khalin and Earl. They were completing the final inspection of all electrical connections.

"Are you ready, Earl?" asked Mikhailloff.

"Yes, sir."

"I'll be with you in a moment, comrades." said Khalin.

A loud knock on the door was heard and Mina entered with two Red soldiers, armed with bayonetted rifles.

Khalin nervously retreated. She smiled at his timidity. "We're not after you yet, comrade Vassily. I just wanted to advise you that the entire plant is surrounded by a regiment of infantry. I am leaving two men at the door. None will be permitted to pass but myself. You have complete privacy, even if this door will be locked for months, before this test is completed. Good luck, comrades."

With a smile at Earl she made her exit.

A strange longing tugged at his heart, as if he could foretell what weird events would take place before he would hear her pleasant voice again.

Shaking off the feeling of foreboding he turned to his labors.

Everything was in readiness.

Mikhailloff proudly signalled for silence. "Gentlemen, this is one of the most important moments of my life. There is a large element of danger present, but if we are careful no harm should come to any of us. I have prepared three pair of sandals made of a resinous composition resembling bakelite. I will ask you to don them."

Without a word Khalin and Earl replaced their shoes with the queer-looking, clumsy footwear.

Mikhailloff continued. "Let me remind you that we are working with voltages running up in the millions. Though the very atmosphere about us will be charged with heavy pressure electricity, we should feel no bad effects. Large charges will completely pass through our bodies."

He lifted a rubber curtain, revealing a structure resembling a cage, with the bars about a foot apart. This cage rested on a thick, cork pedestal, raised about two feet above the ground.

SEVERAL people could have stood upright in this cage without crowding. Mikhailloff opened a door at one side. He placed a small box, containing a dozen guinea pigs, in the center of the cage and locked them in.

Returning to his colleagues he led them to the shelter of an insulated screen containing the instrument board.

"Watch, my friends, I am about to bombard the cage, which is really an insulated electric field of some magnitude, with a half million volts."

With these words, he closed a small switch and slowly turned a rheostat.

Earl and Khalin experienced the same thrill of anticipation that had enthralled them months before. The song of thrumming rotors, whirling away at thousands of revolutions per minute, filled their ears. Their pulses beat with the vibration of powerful dynamos.

AT a touch of the old scientist's hand a blinding electric discharge encompassed the cage. It glowed with a hellish light. Tiny squeals from within came to their ears. The cage with its living contents slowly faded from sight.

Earl was tempted to interfere when he saw Mikhailloff approach the place where the cage had stood just a moment before.

The old man waved him back and lifted a long rubber ferrule in his hand.

It was strange to see him make passes in thin air without the least resistance to obstruct him.

Earl thought he resembled an orchestra leader directing some invisible band.

Smilingly, Mikhailloff returned to his instruments and disconnected the current.

The generators signed and whined to a halt.

Before their anxious eyes, the form of the cage and the tiny animals gradually reappeared. The three men dashed to examine it.

Close examination showed no harm had been done to the pigs. They scampered happily to and fro in their container, much as they had done before the experiment.

Mikhailloff cried with joy. "My friends, kings, emperors, and dictators, all helped me to achieve this success. Would that all Russia's rulers could be here to celebrate with us."

The old man wiped his tears away. "But wait! While fortune is with us, why not follow her lead? What say you to a human trial? Imagine how marvelous, to be able to relate your experiences while in the realm of the fourth dimension. Who will volunteer?"

Earl and Khalin stared at each other. Both were pallid.

In spite of himself, Earl felt a cold chill grip his heart. He heard words leave his lips, hardly aware that he had spoken:

"I'll try it, sir."

Khalin's features were shining with perspiration. He stepped forward and stammered: "I'll go with him, too!"

The old scientist sighed. "If I were only younger. I'd go myself. But I'm afraid of the effects on my heart."

Earl, now feeling much better, consoled him. "Perhaps when we get back, you'll have a try at it, sir."

"Perhaps, my son, perhaps."

Earl entered the cage, with Vassily Khalin following closely behind. Nervously they stood awaiting the experiment to begin.

Mikhailloff walked over to them and extended his hand through the bars of the cage. "Good luck, my sons. A happy journey."

He returned to the controls. A moment later and the room was filled with humming vibrations. A tingling sensation crept up from Earl's toes.

* * *

With a sigh of relief, Mina Boyarsky heard the door to the laboratory slam behind her. She acknowledged the salutes of the soldiers with a slight nod and entered a waiting motor-car.

She was fond of Mikhailloff. The kind-hearted old man had woven his spell of charm about her. A sixth sense warned her that he was in danger, and she was glad that the young American scientist was there to protect him.

An involuntary smile came over her face as she thought of Earl. How different he was from any of her countrymen! Vassily Khalin for example! There was a man she instinctively distrusted, although Moscow had highly recommended him.

Arriving at a barbed wire barricade she stopped the car.

A young man in military uniform stepped from a guard booth. "Greetings Comrade Boyarsky!" he said.

"Captain Illytch!" she gasped. "Is anything wrong? What are you doing here so far from headquarters?"

He motioned her to follow him to a more secluded spot.

"Mina, Comrade Mikhailloff and his aides are in danger! We have discovered a counter-revolutionist plot to destroy the entire plant! Have you completed your precautions for their safety?"

Mina nodded, her face as white as a sheet.

"Good. Ahout this American. Can he be trusted?"

"Y-yes," she stammered, "I am sure he can."

Illytch looked at her narrowly. "We must make sure. Let's go to the laboratory immediately."

They entered her car and swiftly approached the large, gloomy building. All along the road guards eyed them closely as they passed.

Two soldiers stepped aside to let them pass as they left the car and entered the outer door. A few feet further and Mina's intuition caused her to begin running towards the inner door.

At the sight before their astounded eyes, Illytch swore softly and drew a Luger automatic pistol. Mina's soft face hardened with anger and despair. The two Red infantrymen, whom she had left to guard the inner door to the Laboratory were dead. Their own bayonets thrust through their breasts, they lay in a pool of blood!

* * *

A BLINDING flash of light caused Earl and Khalin to blink. That was the last muscular movement they found themselves capable of making!

Of all five senses, sight alone remained to them. They could see as before, but with unusual clearness.

Earl attempted to lift a hand, but found himself powerless. He tried to turn his eyes to see the man at his side but could not.

Khalin was in the same predicament. Strangest of all, they lost all sense of hearing. The crackling of electrical discharges, the vibrating of the engines, and the humming of the motors had ceased. All was quiet, deathly still.

In the midst of this soundless inertia, Earl imagined he heard a voice. At once he realized the voice was in his brain, and not in his ears.

("Comrade, if you but concentrate, you will be able to send me your thoughts. Try, for heaven's sake, try!")

In this fourth dimensional kingdom, the power of thought transference existed! Well, he'd use it.

("This wasn't so bad at all") thought Earl.

Quick as a flash came the reply: ("I understand, Comrade. Try again.") Khalin's thoughts were as plain as if he had spoken!

("How are you, Khalin?") quizzed Earl.

("Much the same as yourself, Comrade. I feel almost ethereal.")

("Now I know the sensations of a disembodied spirit, Khalin") sent Earl. ("Nothing earthly seems to matter.")

("Lucky for us, Earl, that our eyelids were open or we would have lost the use of our eyes.")

("Then you *can* see, too, Khalin!")

("Yes, my friend") was the reply.

Earl was enjoying this effortless conversation. He wondered if the ability to read thoughts would remain on his return to—

The Russian's thoughts broke into his reflections. ("I am thinking the same thing, Earl. But I am also worried. What if we do not return—")

IF Earl had had the use of his nervous system, he knew he would have shuddered. He tried to drive the picture of two lost minds wandering in fourth dimensional space, from his soul.

A thousand questions crowded his brain. What would happen to his body? Would his hearty constitution miss its regular fuel? His sinewy muscles? And then the most important question of all. Would he ever see Mina again?

He forgot that Khalin was reading every thought as it was conceived.

Strangely, the Russian had acquired a courage, new to his timid nature. He discussed their problems freely and without the least anxiety.

("As far as your great body is concerned, Earl, do not worry. If we never return, what difference will it make? And if we do,—remember, that for us

time has halted; our bodies are not subject to three-dimensional ills or hungers.")

("You are right, Khalin. I shall forget my selfish concern. But how about—")

Before he could finish, the Russian interrupted: ("I understand, my friend, you mean Mina Boyarsky. I know my countrywomen. Now I can see that you really love her. Rest assured that your affections are returned. Mikhailloff and I joked about it frequently. But now let us attempt to look about us and try to examine our surroundings. Enough of introspection.")

Earl's eyes were still fixed in front of him. He gazed for a moment and signalled: ("I can see the laboratory, just as we left it. Dr. Mikhailloff is behind the insulated screen, busy at his instrument board. Do you see anything different?")

("No, I receive the same impulses, except that everything is very clear to my eyes. All seems usual. It is strange to be able to watch the vibration of the engines, and yet be unable to hear their noises.")

("Without doubt, Khalin, we see the same scene from the identical angle. Let us watch carefully for a moment.")

("Earl, look at that clock. It reads ten minutes of two. Is it possible that almost two hours have elapsed?")

("Why not, Khalin? Time may have stopped for us, but it is surely passing for the rest of the world. But, see—Khalin, see—")

A DRAMA was unfolding itself before them, in the laboratory. As they stared, eyes glued ahead of them, the door slowly opened. It must have been silently done, as the old scientist did not turn from his work.

Two men slipped into the room, bearing rifles. They were clad as Russian workmen. As the door opened to allow them to enter, the invisible watchers caught a glimpse of the bodies of the Red guards.

The assassins slid back of Mikhailloff unnoticed. With a murderous leer on his face, the tallest intruder lifted his rifle and crashed the heavy butt on the old man's head. His companion laughed, brutally, as their victim fell to the floor lifeless.

("Did you see that, Khalin?") frantically signalled Earl.

("I'm afraid we are lost, comrade. And the poor Mikhailloff, just as he was triumphant. See, they advance to the controls— I hope—")

A blinding flash filled the room with its familiar hellish illumination.

Both Earl and Khalin felt again the tingling that signalled their return to the realm of three dimensions.

Earl sighed with relief as he moved his arms once more.

They turned to each other. The great machines were slowing to a stop.

The laboratory was bare of human life. There was no sign of the intruders.

The men stepped from the cage and advanced to the screen that sheltered the controls.

Only too well did they know what they would find behind it.

Earl steeled himself for the bloody sight of the scientist's remains.

Khalin, again timid, lagged a foot in the rear.

A sound from behind the screen froze each man in his steps!

Earl's heart stood still at the astounding vision before him.

An eager look on his face, his hands stretched forward in greeting—smiling triumphantly—Peter Mikhailloff stood before them!

They recoiled in horror! But they saw that he was unharmed and living!

The touch of his warm hands on theirs broke the spell!

Mikhailloff's features wrinkled anxiously: "You are well, my friends? Why the look of terror on your faces? What is—"

A scream from Earl stopped him.

"Look, Khalin, the clock—"

Khalin's eyes darted up the wall. "Fifteen minutes of two," he read.

Mikhailloff watched their antics, baffled.

Slowly the explanation filtered into Khalin's mind: *"The murder had not yet occurred!"*

Earl looked around for a weapon. He knew it was a matter of minutes before the assassins would enter the room.

Khalin dashed to where he had laid his uniform coat. He pulled a heavy Webley revolver from a pocket and held it nervously.

Earl grabbed it from his hand, and aimed it at the door.

As they watched, it silently swung open, and the two counter-revolutionaries entered, the dead soldiers' rifles in their hands.

Their grim, murderous looks changed to stupefaction, as Earl calmly shot them through their heads

Khalin slumped into a chair, thoroughly exhausted.

Mikhailloff regarded the bodies of the assassins and turned to Earl: "What does this mean? Who are these men?"

Earl wearily waved to Khalin. "Tell him, Vassily; I'm all in." He looked again at the clock. It was exactly two. Sighing, he fainted to the floor.

The old scientist looked from one to the other, hopelessly bewildered. As the inner door reopened, he reached for the revolver.

Mina and Illytch entered. Seeing Earl stretched on the ground, she ran to his side. She tearfully covering his face with kisses.

"FOUR minds, with but two single thoughts," mused Mikhailloff ,as he and Khalin watched Mina and Earl.

He was sure that they were thinking of love and mariage, while Khalin and he were reflecting on fourth-dimensional experiments.

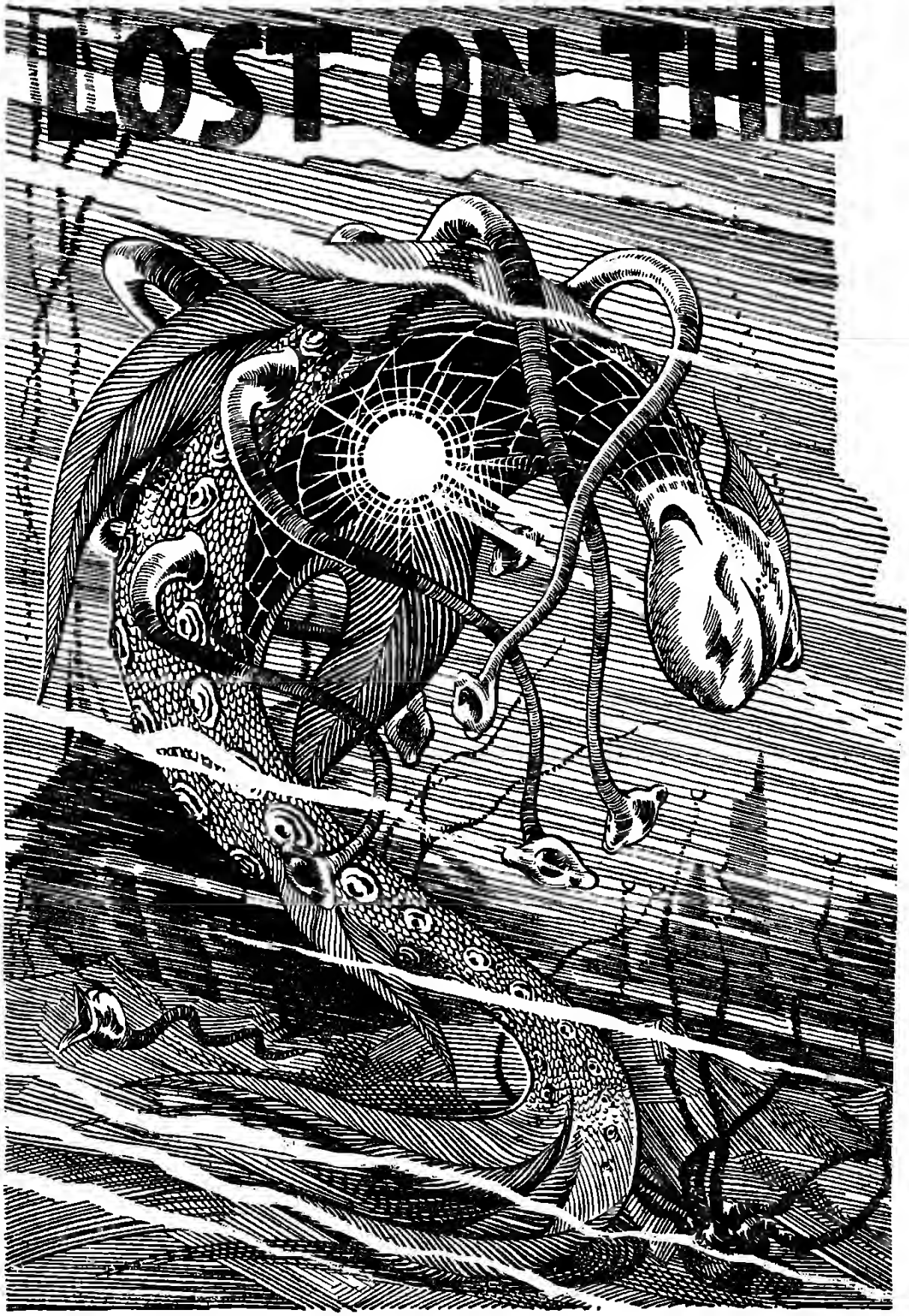
Mina was explaining the reason for the attempted murder. "When I left you, the day of the test, I met my superior, Captain Ollytch. He informed me of a 'White Russian' counter-revolutionary plot to destroy you all. We hurried to your assistance, but when we found the bodies of your guards, we knew we were too late. How do you explain the fact that you were forewarned?"

Earl related how Khalin and he had seen the vision of the murder. "In America," he went on, "we would have called it a 'preview' of forthcoming events. I, myself, don't understand just how it happened, either. Khalin and I were sure you were lying back of the screen, stone dead."

Mikhailloff smiled benevolently. "My children, our ancestors would have called it a miracle. We know that somehow the fine balance that connects time and space must have been disturbed, in order to show you your 'preview' of my death. I don't know exactly what it was that made me change my mind and disconnect the mechanism when I did, but evidently it saved my life. In our future experiments, no doubt, it all will be clear."

Mina shyly looked up into Earl's eyes. "All new tests must await our marriage, my dear. I wouldn't care for you to have any 'previews' of our wedded life. You might change your mind."

THE END


LOST ON THE

SEA BOTTOM

Five miles down went Lan Gary and Ecum McNab to rescue Thornton Kessler, trapped in an ocean cave.

By ED EARL REPP

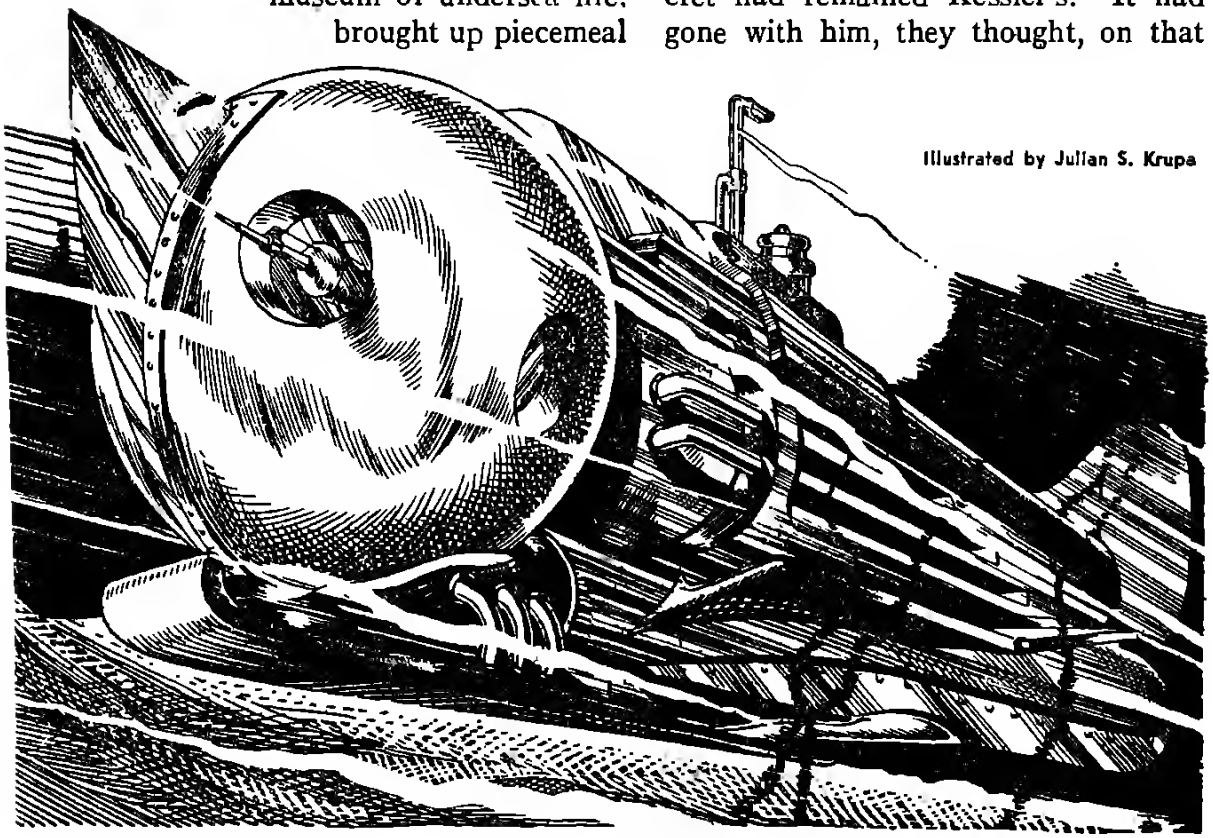
CHAPTER I

A Message From the Deep

IT was over eight months since the snapping of a slender thread of steel had severed Thornton Kessler's last contact with the world above the sea. In the little laboratory in Nova Scotia, buried from the eyes of a prying world, his work had stood right where he left it undisturbed and gathering dust.

Thornton Kessler had dreamed of constructing a submarine capable of going deeper than man had ever descended. He visioned a great museum of undersea life, brought up piecemeal from the very bottom, from depths of three or four miles. And he dreamed of salvaging sunken ships, for money to carry on his work as he liked. In the plans for the *Rotifer* he had thought his dream accomplished. With the help of his two assistants he had built those plans into reality.

But although Lan Gary and Brinkendorf knew every rivet and plate in the huge, drum-like craft, neither of them knew what was to keep it from being crushed like an egg in the incredible pressures of the sea-bottom. That secret had remained Kessler's. It had gone with him, they thought, on that



Illustrated by Julian S. Krupa

last trip.

Knowing that another month's work would see it finished, he had gone out for a last-minute's test of radio equipment to be used in the ship. He had installed special radio apparatus, of extremely short wave-length, in the laboratory and in McNab's boat, to test whether his signals could be heard from a mile down and a hundred miles away.

In a bathysphere built along the lines of that in which William Beebe * descended to the depth of a half-mile, he went down to a mile, in constant radio touch with his ship. And then tragedy struck. The slender cable, stretched beyond endurance, parted!

Thornton Kessler plunged deeper than man had ever gone, with utterly no control over his descent or direction.

But Gary had never forsaken his conviction that Kessler might still be living down there, in some cavern, perhaps, or—well, he didn't know just how he expected the miracle to be accomplished. But he had fought on while months failed to give him a ray of hope.

OUT in the shed the glittering, streamlined sides of the *Rotifer* had gathered dust, and the tracks that were to carry the bathysub down the incline into the waters of Cumberland Basin were red with rust. But every day Lan Gary would putter around in the lab or poke about inside the *Rotifer*, searching for the secret his chief had hidden too well, and every night would find him tired and dissatisfied and defeated.

Brinkendorf, assistant under Gary, had grown disgusted. Only the weekly salary that Kessler's bank account continued for them kept him there. Even Gary's vigilant hope was waning. Why he kept dreaming that Kessler, great oceanographer though he was, could ever return from the bottom of the Atlantic he was beginning to wonder himself.

Then came the night when a rap on the door brought both of the scientists up in their chairs with a start. Lan went to the door and opened it, completely unaware that that simple act was like opening the portal into the past. . . .

There was a small, wiry little man in the homely attire of a Nova Scotia fisherman outside, the light from the interior polishing his bald, brown pate. Aye, Mister Gary," he greeted. "It's me—McNab. I'm thinking I've got news for ye."

"Come on in, Ecum," Gary smiled. "What kind of news?"

McNab did not answer at once. He stood just within the door, looking about him slyly, his squinting eyes sparkling like bits of sapphire in the seamed brown of his face. His narrow shoulders supported a dirty old pea-jacket, and voluminous trousers hid his legs, piling up in folds on his heavy brogans. He twisted an old-fashioned, striped seaman's stocking cap in his hands.

"That feller have to hear it?" he asked at last, scowling at the heavy-set blond scientist under the reading lamp. "This here is mighty important. About Kessler."

"Kessler!" The word was torn from the mouth of each man. "What about him?" Lan demanded. "For God's sake, Ecum, if you know anything about him don't keep us waiting! You can trust Brinkendorf as much as you could me."

And off at the other side of the room Brinkendorf snorted faintly.

The old cod fisherman raised his shoulders and let them drop at that. "Here it be, then," he gave in. "Like I told you, I been hearin' weak calls on my radio out beyond the beds—not reg-

* Beebe, William, *Half Mile Down*, Harcourt, Brace, and Company, N. Y.—Author.

'lar calls, but noises on that 'Gamma-radio' contraption he fixed us up with 'fore he left. *Today I heard Kessler talkin'!"*

SILENCE rushed into the room. Gary's whisper broke it "You heard him!"

McNab smoothed a paper out and read, his words dropping into the almost tangible hush. "Here's what 'e said: 'To Gary, McNab, or Brinkendorf. Don't know where I am, but probably canyon off New York. Cavern. Plans under shed. Help!' Just that over and over. And weak."

Dumbly, Gary lowered himself into the chair. In the few moments in which he sat there his mind flashed back over the many months.

Ecum McNab recalled him to reality. "What in tarnation you suppose 'e meant by the canyon off of New York?" he growled.

"Could he mean the submarine canyon they discovered by radio-sounding a while back?" Lan put hurriedly. "They say it has about the same dimensions and general shape as the Grand Canyon of the Colorado. * Lord knows how deep it is."

Brinkendorf rose, and his pale blue eyes flashed. "For why we stay here talking? Them plans is right where we can get them, ain't it?"

"That's right!" Lan agreed. "Under the shed, he says. That'll be the test. If we find the papers there, we'll know this is no trick."

IN the dark, damp space among the pilings of the shed they found a copper box containing the missing blueprints. Eagerly the sheets were spread out on the dining room table and scanned. Time flew swiftly as the two scientists read and studied, and old McNab finally drifted off unnoticed.

It was after midnight when the unbelievable system of pressure-combating was deciphered. Over the table the men's eyes met, full of wonder. "I'm not hardly believing it," Brinkendorf muttered. "A centrifugal-force plan that ain't possible. And yet—I don't know."

"But it's here, in black and white—worked out to the *nth* degree. Brink, it means we've got the means of saving Kessler at last!"

The Dutchman's eyes avoided Gary's. His mouth tightened in thought. And then, pointedly, he said, "You ain't serious about going down—deeper than anything has ever gone and come back alive?"

Gary stared at him. "Of course! We have the plans—all we need to do is to put them through." His eyes narrowed. "What are you driving it?"

"They're worth a lot, them plans. A million dollars, maybe."

Lan came to his feet slowly, a puzzled, half-angry look on his features. "I don't think I like that, Brinkendorf. Make yourself plain."

The burly, blond scientist leaned back in his chair and cocked his head on the side. "Lissen, my young friend," he said slowly, clipping his words gutturally. "This ain't a world where you live forever. You got to go sometime, and if you can enjoy life first—*warum nein?* You know as well as I that if we go down after Kessler we got a damn long chance of coming back alive. All right. He got himself in the mess, let him get out of it alone. We got the plans. We'll sell them and split. How do you think?"

Lan Gary said not a word as he crossed and dragged Brinkendorf up out of the chair. His arm swung back and then a fist lashed out, to crack solidly against the side of the other's jaw.

* *Scientific American*, March, 1938, p. 137.—Author.

Brinkendorf hit the floor with a crash. "I think you'd better get out quick," Gary breathed. "Don't ever come around here again. I haven't much use for murderers, potential or otherwise."

Brinkendorf said not a word, just glared malevolently and left to pack.

For a long while after the door closed on the man Gary stood there staring after him. It had not been the first time he had suspected Brinkendorf of treachery. He had thought before that he might know something about the disappearance of certain valuable parts of the *Rotifer*, and had found him alone in the shed several times, studying the construction of it with intense interest. His honest nature was utterly revolted at his suggestion . . . to abandon a man on the floor of the ocean, frantically calling for help.

Worried and excited, Lan finally went to get a few hours' sleep.

CHAPTER II

Into the Deeps

HE found Ecum McNab pathetically eager to take the other's place in the crew of the *Rotifer*. He had been a staunch friend of the missing oceanographer, and would have given his beloved schooner for a chance to help rescue him.

But he was puzzled by the strange ship, and Lan found time in the next few days to explain it all to him. The first time Ecum eyed the big submarine he was awe-struck. "Sink me for a barnacle if it ain't a God-awful lookin' thing!"

Gary grinned and looked up at the bathysub. He had to admit it was a fantastic-appearing craft, but now that he understood its workings he could see the reason of every line of it.

In appearance it was like a very thick wheel, one hub being the front of it and the other the rear. The front of the craft sloped back rather acutely to the stern, which came up more perpendicularly from the hub. Around the circumference of the prow was a wide glass window completely encircling it like a rim. Set into the semi-spherical nose were four large, powerful lights, and at the very back of the craft was a splayed hub containing the screws which propelled the *Rotifer*.

"It doesn't have quite the lines of your gaff-rigged schooners, does it?" he agreed. "But Kessler knew what he was doing. The pressure he was fighting is the kind that can squeeze a ship's hawser down to a rope thinner than your wrist. Four miles down he wanted to go—when the pressure at three miles is nearly ten times the pressure needed to condense air to a liquid!"

"But how does she sail!" McNab frowned.

"Like a wheel going sideways, hub first. To resist the terrific force of the water he needed something more than internal pressure, and if he tried to make walls thick enough to fight the ocean's power, the thing would be so heavy it'd drop like a rock. Only one thing could do the work—centrifugal force!"

"Ain't that like when a wheel spins so fast it throws mud behind it?"

"Behind it and in every other direction," Lan laughed. "The way we will use it is to have the ship's quarters separate from the outside hull, so that the hull can spin freely. As the pressure grows greater, mano-stats will turn on more power, spinning it faster and faster. The force created by the spinning shell, plus the strongest metal sides ever put on a submarine, will—we hope—keep us from being crushed."

"And once we get down, if we ain't squeezed flatter'n a halibut, all we got

to do is to find Kessler in the biggest canyon in the world!"

"That's all," Gary nodded somberly. "It's a day's work, but the prize is worth it."

To their already heavy worries was added the staggering blow that Brinkendorf had taken the plans with him when he left! Although Gary knew them fairly well, he could not help worrying about what the man intended to use them for. Kessler, he knew, had taken out preliminary patents on the craft, so that the ship could not be stolen, but what other scheme could lurk in the Dutchman's mind? Lan could not guess, but as he plunged into the hectic job before him, the chilling fear of what Brinkendorf's greed might lead to was always there.

It was five weeks to a day when they hauled open the door of the big shed and prepared to launch the ship.

AT the controls of the strange craft, his fingers within reach of buttons and levers that gave him power over every part of it, Lan sat and peered through the transparent band of glass that went like a stripe around the nose. Beyond the tracks were the wooded slopes of the bay, and still farther, somewhere out in the deeps, lay the great canyon in which Thornton Kessler might be waiting.

Now he turned and glanced about the interior. Every port was locked, every engine hatch was closed. His right hand pulled the accelerator back a little.

There was a smooth whirring as the drive shaft to the retractible landing wheels turned—and then they were sliding into the water. They saw the windows washed with a foaming greenish-white, and then a deeper green came up to obscure daylight completely. Lan's heart was in his mouth. Was the thing going to sink before the tanks were filled?

Then, slowly, the bathysub ascended, until it was riding along smoothly with exactly half its bulk under water. Both men breathed easier. Lan gave it a little more power. The battery of meters before him behaved beautifully. Every needle quivered about its proper point.

He started as he realized the speedometer registered almost forty miles per hour. The *Rotifer* cut through the water like a fish! A warm exhilaration flowed through him as he settled himself more comfortably on the seat and prepared for the long trip ahead. His eyes rested on the rough blue sea stretching out ahead for interminable miles, and then, dropping his gaze a couple of feet, he could gaze through the lower arc of the window down into the cool green depths below.

The weeks that had passed had been a time of constant labor for him. From charts and mariners' accounts he had acquainted himself with that part of the ocean's floor round about the canyon until he knew every crag, ridge, and valley within an area of miles.

Too, he had spent many hours worrying about Brinkendorf. He did not deceive himself that the man would remain idle now that he had the plans. He knew enough about the bathysub to construct one himself, but once constructed, what would he do with it? Lan's jaw hardened as he told himself it would not be anything to profit humanity.

About one hundred miles off New York they slowed down and Lan set the controls while they scanned their charts. From his observations he reckoned they were about directly over the "Grand Canyon of the Atlantic," as oceanographers had called it. He looked up to meet McNab's shrewd glance. "Looks like this is it!" he an-

nounced. "From somewhere about here those calls emanated. Take a deep breath, Ecum. We're going about five times as deep as anyone has ever gone before!"

He strode back to the controls and thrust down the lever, resembling the joy-stick of an airplane, that sent the *Rotifer* down. The directional propellers immediately tilted the craft to a twenty-five degree angle. The gurgle of water entering the submersing tanks was audible. Before Gary's eyes the manometer needle started its long trip across the dial, registering fifty feet within the first few minutes.

There was not a sound from either man for a long time.

ECUM McNAB stood in the middle of the submarine and gazed up and around at the strange sights to be seen through the window encircling the "rim" of the ship. Flaming parrot fish swarmed about, and great, sluggish-seeming sharks stared in at them. The water changed color rapidly from a light green to a deep blue-green. Gary flipped on the lights and sent a brilliant white beam cutting through the murky water, spearing countless fish with it.

Now, with a sudden change of sound, the outside hull of the *Rotifer* commenced slowly to turn. From minute specks in the window ahead of him, Lan knew it was revolving, though there was no other indication than the hum of electric motors switched on by automatic mano-stats.

Gradually a low hiss built up in the interior. The air between the inner and outer casings of the craft had been stirred into motion by the spinning exterior, creating a sibilant whisper that reached every corner of the bathysub. The room grew dark as they plunged on and on. Outside it was perfectly black, only the headlights breaking the solidness of the dark water. And within the cabin only a feeble glow existed that emanated from the dashboard.

Gradually a strange blue light seeped into the depths. "Saints!" McNab ejaculated, peering out. "What's that?"

Lan studied the peculiar, all-pervading blue light. It was light, and yet it was not illumination. It seemed less opaque than the former darkness, but he realized he could see no more inside the cabin than he had been able to before. Suddenly he blurted, "It must be what Beebe mentions that he found at a half mile down! The light that came from nowhere and wasn't exactly light either." And, glancing at the manometer, he jerked, "That's it. We're just five hundred fathoms down!"

"Five hundred fathoms!" McNab whispered, and was silent.

WHEN they had touched twenty-five hundred fathoms the spinning hull had advanced to such a terrific rate that it was difficult to steer the craft. Gyroscopic action made the *Rotifer* resist his every attempt to make swift turns. The humming was a low, shrill whistle in their ears.

Fathom by fathom, as they descended, it grew lighter! The sun's light, he knew, had been lost at about one hundred and fifty fathoms, and yet it was growing more like daylight all the time. The curious blue light, so like the light of a mercury vapor lamp, filled the ship and lightened the outside.

After a while Gary said quietly, "Three thousand fathoms. Just seven times as far down as man has ever gone before." There was a queer tightness in his voice, for he was wondering how Kessler, in an ordinary bathysphere, could ever have gone so deep.

"Three and a half miles!" McNab muttered. "I wish I had good old yel-

low pine or white oak between me and that water! They ain't never failed me yet."

Lan could not repress a laugh. "You should be thankful you don't," he assured the sailor. "They've sent wood down that far before, and when it was brought up it was compressed so it would no longer float! Every foot we go down means an increasing pressure of one-half pound to the square inch. There's about three tons to the square inch right now."

Ecum blew his breath out slowly, and went back to the window.

An hour crept by, while the bathysub crept on down to four and one half miles, deeper and deeper into the strange blue light. Without warning Lan shouted, "Look ahead! Mountains, valleys—*and the Grand Canyon!*"

CHAPTER III

On the Bottom

McNAB rushed to the port to scan the landscape a few hundred feet below. His mouth dropped open as he peered at the weird, lunar setting. High mountains heaved themselves a thousand feet into the waters above, and valleys made black depressions. The whole landscape was like one on a barren planet.

The eerie blue light threw bold shadows down the ragged slopes, causing the gaunt spires and crags to stand out in sharp relief. On beyond the mountain range was a deep chasm that traversed the ocean's floor exactly like a canyon. Toward it the *Rotifer* headed in obedience to Lan's guiding fingers.

While they strained their eyes looking ahead the canyon drew closer, until finally they were dropping down into it. A gasp of amazement parted Gary's lips. "A—a river!" he gulped. "A river on the bottom of the ocean. Am I crazy, Ecum?"

"Not unless I am too. I can see it as plain as day, flowin' along between its banks like a frosty stream o' white water. What in the name o' Neptune is it?"

Lan was silent. Then he muttered, "I don't know, unless . . . unless it could be liquid oxygen. They say the water way down here is rich in oxygen. Why couldn't that gas be compressed at this depth into a liquid, for it only takes about five hundred and eighty-five pounds to do it? Maybe if only a few molecules in each cubic foot of water in the Atlantic were liquefied, they'd all eventually flow down to the deepest spot."

Then that wonder was swallowed up in the new thought that arose to him. "We can't grope around here for months looking for him without a clue," he frowned. "Switch on the transmitter and receiver. Even though we haven't heard Kessler calling again, maybe he'll hear us and start sending. Although how he could ever have reached this depth—"

He broke off the morbid train of thought. While McNab set the dials and rheostats he gave his attention to studying the phenomena surrounding them. The light that had at first so puzzled him now commenced to be understood. He knew that countless varieties of coral, and numerous species of fish, contain highly luminous substances in their own bodies. What became of those elements when the fish died and the coral disintegrated?

It was not destroyed on the death of the animal or plant, for he had seen dead fish still lighted by the luminescence in their bodies. Then might those minute grains of glowing substance not sink down and down, as the

fish was torn to bits, and eventually come to rest in the gray ooze at the sea's bottom? Why not? It would certainly account for the light.

They cruised along a few hundred feet above that mysterious river, buffeted now and then by cross-currents sweeping from the mouths of caverns or smaller canyons. The frigid stream went past swiftly in the complete silence. What appeared to be ice blocks, tossed on its surface, causing the liquid to take on a frosty white color.

Above them, on each side, majestic peaks and crags loomed high, seeming to frown down on these intruders from the upper world. As far up as Gary looked, he could barely see the brink of the chasm. The cliffs went up in barren grandeur, not a shrub or sea-plant marring the gaunt surface.

Into the soundlessness of the cabin broke the hum of vacuum tubes, and then McNab's voice speaking into the microphone: "Calling Thornton Kessler! Kessler, can you hear us? It's McNab and Gary. We're down here at last, and lookin' for ye. Can you hear us, Kessler?"

The transmitter's low murmur gave them its empty answer. McNab switched over again and resumed his calling. He kept talking and listening, while miles fled by on their dangerous journey down the canyon. Only the silence of ages answered them.

The *Rotifer* drifted along like a tiny boat at the bottom of the Grand Canyon, unspeakably small amid the grandeur of the mountain ranges. Suddenly it struck Gary how utterly hopeless this search was. In all this vast ocean they were searching for one man —one man, no larger than the smallest rock up there on the canyon walls!

WITH shocking suddenness he was yanked out of his gloomy reflections. From the amplifier came a tiny whisper: "Calling *Rotifer!* Kessler calling *Rotifer!* Gary—McNab—I'm in. . . ."

Both men leaped to their feet. As if that had been the signal the loudspeaker went dead. The sailor turned the volume on full, but the call was not repeated. Frantically they jiggled knobs and tried everything to catch the voice again. The moments raced by as they sweated over the set.

Then Gary stiffened. "Wait a minute! That call came just as we passed a huge hole in the cliff on this side. Maybe his batteries are so dead he can only get a call to us when we're that close. Maybe he's in that cavern, McNab!"

He dived to the controls and swung the ship around hurriedly. In a few moments they were speeding up the chasm once more. Ahead of them the great, black hole Lan had noticed before yawned. He steered dangerously close to it, in constant danger of rending boulders. Then they were holding their breath as the radio whispered: "Kessler. In the cavern with square mouth. Don't get too close. Current is too strong. . . ."

The warning reached them too late. In the next moment they were being sucked into the black maw with the speed of a bullet. Up, down, around they whirled and jerked, while the headlights flashed briefly over jagged walls. Both men were on the floor holding onto each other to keep from smashing into the walls.

As quickly as the sub was sucked into the cavern, it stopped its mad flight. The *Rotifer* halted and rose a few feet, then popped up and settled back—on the surface!

EAGERLY they scrambled up and rushed to the ports. Through the

glass they caught glimpses of a vast cavern stretching back for miles, with a low, rough dome. Not over a hundred feet away a curving shore was lapped by tiny waves, and on the shore stood a man in ragged clothing, waving to them. . . .

It took the pair in the bathysub but a moment to beach the craft and spring out. Their eager glances raced over the white features of Thornton Kessler, as they ran toward him. He looked hale and hearty, despite his pallor. His long face was bearded, and his big frame bulked generously inside the ragged clothing.

He was almost knocked over by their hand-shaking and back-clapping. They shouted questions at him without pausing. He tried to raise his voice above theirs. but failed.

It came as a complete surprise to both when a new voice, behind them. gutturaled, "This is indeed a warm welcome. Meinheer Kessler. You see, all your fears about calling them were groundless. Ain't I told you how glad they would be?"

Gary whirled--and almost yelled with surprise. Brinkendorf, large and menacing, leered at them as he sat on a rock, a German Luger in his hand. "These three days I have waited," he smirked. "You have been slow, my friends."

"Brinkendorf!" Lan managed to gasp. "Then you meant business when you stole the plans— You copied the *Rotifer* somehow!"

The thick shoulders shrugged. "Of course I meant business. I still do. Otherwise I would not be risking my life down here a few miles from hell."

Kessler's quiet, grave voice, heavy with regret, broke in. "He forced me to call you," he apologized. "My own set went dead weeks ago. Batteries don't last forever. I'd rather have died than subject you to his brutal plans. . . ." Unconsciously his fingers touched an ugly bruise across his forehead.

Hatred choked Lan. Through the angry buzzing of pumping blood that pounded through his head he heard McNab snort, "So now what, you barnacled son of a barracuda?"

"So now—" Brinkendorf turned and glanced across a rough field of reddish colored moss. Gary's gaze was pulled after his. At the base of a low hummock he saw an exact duplicate of his own ship, resting on its landing wheels. "So now we will all walk over there, remembering all the time that this gun holds enough cartridges to kill each one of you. Then I shall board my own ship, the *Equalizer*—appropriate, don't you think?—and within ten minutes I shall be gone. I will neither kill you nor disable your ship. However, I shall take the precaution of dynamiting the entrance to this cavern as I leave!"

Lan started. In his mind there flickered a faint gleam of wonder at all this, a disbelief that such inhuman greed could exist. Into his stunned consciousness filtered the harsh voice again:

"Strange, the atmosphere in these caverns. They have ample oxygen for several men for months, but once a breath of air is used—it is completely spoiled for future use. As there are no chlorophyll-type plants to convert the carbon dioxide into oxygen once more, I am afraid you will all suffocate within a few weeks!" And his heavy, rolling laugh boomed out.

Now he gestured with the automatic pistol. "Let us hurry, my friends. I have a peculiar aversion to caves—claustrophobia, perhaps. I do not envy you."

With the constantly menacing gun

on their backs they started across the field toward the water's edge.

CHAPTER IV

A Cavern of Death

AS they walked, Thornton Kessler spoke about his life here the last six months.

"Fate meant me for a different end than death by drowning, it seems," he smiled wanly. "After the cable broke I dropped as swiftly as a falling rock. When I had come down to three and a half miles water began pouring into the bathysphere. It rose rapidly, until I was just waiting for the end. The ball began groaning and wrenching as though it could not hold out another second—but somehow it held.

"Then the swift deep-sea currents struck me and buffeted me about like a ping-pong ball in a gale. Finally I saw this canyon and guessed where I was. Before long the same current that drew you in seized me. I ended up in a shallow bay a mile or two down the shore. There I have lived ever since."

McNab glanced up at him in concern. "But *how* have you lived?" he wanted to know. "Have ye eaten nothing but hardtack in six months?"

Kessler's grave, blue eyes dropped to the soft moss. "There is my food," he smiled. "I don't know how to classify it. It isn't a plant, as there is no sunlight on which it can rely for metabolism. Perhaps it is half animal and half vegetable. There are a few curious fish in the water, so animal life is possible down here."

"I'll have to admit I've never seen you look healthier, aside from your pallor," Lan said soberly. "How do you account for that, under such privations?"

"Lack of bacteria, probably. They can't live in the deep sea as you know, so they couldn't have got this far down. No—it takes something more vicious than a *bacillus streptococcus* to cause death down here."

His remark plunged them back into the problem at hand. Deliberately they had avoided it. It was not pleasant to think of suffocating down here. Somberly they thought of the horrible possibilities in the unnatural climate. Without bacteria dead bodies would stay forever the same, lacking only that vital spark to distinguish them from the living. The idea of being the last man occurred to them all. Alive, forced to live with the bodies of his dead friends—afraid to bury them because they seemed so alive, afraid of madness if he did not.

THEN they were halting outside the *Equalizer*. "Here we must part," Brinkendorf said curtly. "I go back to the world of sunlight, to realize the profits of my—er, industry. I leave you to whatever the bottom of the sea may hold for you!"

He backed to the open door of the bathysub, climbed in . . . and started off with the closing of the port. The wheels bounced heavily over the soft terrain.

Kessler's hopes died with the wilt of his body. McNab cursed silently. Then Gary seized their arms and dragged them with him toward the shore. "Now's our chance!" he cried. "He'll hit the water in a minute and can't see us so clearly. But we'll beat him to the draw by getting out as he sets off the charge!"

"If we can," Kessler rejoined. "He told me he improved over my own ideas on the sub. Perhaps we'll be too late—"

"We can try," Lan gave back grimly, and quickened his pace.

The *Equalizer* was a fast-moving silver speck in the water as they climbed into their own craft and headed back

into the water. Once more foaming water boiled about the windows of the ship. Now they were on equal terms with Brinkendorf. Now only speed could save them!

BUT when the headlights of the *Rotifer* sprayed the roof of the tunnel with light they saw their predicament. Against the rocky ceiling an ordinary, large rubber balloon was held by helium or hydrogen gas. Something sparkled below it. It was a small silver ball from which a stream of sparks were spilling.

Gary sprang onto the submersion lever, a shout on his lips. "We're diving!" he cried. "Hell's going to break loose any second!"

Scarcely had the bubbles of their sinking broken when the explosive brought the ceiling down in a caving roar. Mud and rocks joined in a black cascade raining into the still water. Before the window of the *Rotifer* a black curtain descended, blotting out everything from the frightened men's eyes.

Jarring thumps buffeted them about. The blood drained swiftly from Gary's lips as he clung to the controls with the courage born of desperation. Through a night as black as the Coal Sack * they tore to safety—or death. Their jaws were clamped hard on their fear.

And then, all at once, they had shot through the landslide to clear water.

Kessler sagged onto a chair and mopped his brow. McNab stood at the port, looking out, thinking, perhaps, of the death that he had missed.

But their relief was a doomed one. Into the cabin lashed the voice of Brinkendorf. The radio had been left on. It rolled his sonorous tones ominously through the silence.

"My friends, you were clever. Are you clever enough to escape the flame I am about to send around you?"

With a single accord they crowded the windows. In the same second they saw him. They gasped, watching the little bubble of white flame on the nose of the *Equalizer*, waiting just outside the tunnel, grow into a serpentine tongue of death.

Kessler was shouting now. "Don't let it touch us, Lan! It's an acetylene torch, powerful enough to burn through the hull of the ship!"

Lan shoved the submersion lever against the dashboard. "I know it. But he's got to catch us, first."

With his quiet words the bathysub shot down, almost scraping the *Equalizer*. Power throbbed through the ship's beams. Ecum and Kessler crouched beside the tight-lipped pilot. The eyes of the sailor were on the gleaming hull visible above them, the gaze of the scientist on the quivering needles. And in their different ways, all three men were praying.

Something like a half minute passed before an alien light filtered into the cabin, growing in brilliance as the pursuing craft cut down the distance between them. Gary's eyes were on the meters. "How close?" he muttered.

He could read the answer in Kessler's returning gaze. He did not wait for him to speak, but swung the *Rotifer* into a swift turn. Like a falling leaf they dropped through a long spiral toward the river of death down below.

There was a glimmer of hope in their eyes when Brinkendorf's low chuckle chilled them again. "There is always this way, of course," he told them. "Death in a river of liquid air might be preferable to death by pressure. The choice is yours."

THEY dropped on. The hull of the ship screamed at unbelievable speed as the manometer needle crawled past

* An utterly starless portion of space where nothing seems to exist.—Ed.

five miles, drew nearer to six. There was a glistening film of sweat on Lan's brow, and once he had to reach up and wipe it out of his eyes. Swinging the ship suddenly away from the river and toward a still deeper canyon cutting off from the main one, he answered their unspoken question.

"We're heading for disaster that way. If the river is liquid air, the water for a quarter of a mile above will be frozen. I'll try to lose him in the canyon we're heading into."

Fear increased in their hearts with the light that seeped through the ports again. Glancing back, Gary saw a long, waving tentacle of flame lashing out at them only fifty or sixty feet in the rear. Brinkendorf started to laugh.

"Getting tired of it, Kessler? You have only to—"

"Shut that damned thing off!" Lan shouted. "It makes me want to put her about and take him with us, in one grand crash!"

McNab's finger dropped the mocking laugh into silence.

Towering, irregular walls now replaced the vast expanse of the Grand Canyon. Great rocks bristled in the cliff walls, a constant menace to the ship; but in their threat Gary found hope. Perhaps Brinkendorf would not care to risk his life in such speed as they were putting on as they plunged into the tortuous chasm.

He found he was wrong. Ecum McNab laid a hand on his shoulder. His voice came strongly, untainted by fear. "It's the end, boy," he said without trace of regret. "If it's all the same with you two, I'm casting my vote for the idee you just mentioned—puttin' her about and close-haulin' into his path!"

"No—there must be a way!" Lan cried, and instantly felt childish for his useless protest. He looked around to meet Thornton Kessler's gaze.

"How about—" He broke off, tore his gaze back to the window. The rocks were going by at unbelievable speed. A glance at the speedometer showed they had increased in speed from twenty-five miles to thirty-five!

"Some freak current," he muttered. "It must be, because Brinkendorf's speeded up to match our rate." Then he jerked rigid on the pilot's seat. "We haven't lost," he breathed. "No, we've got a chance still. I don't know how much—but grab the wall girders and hold on!"

Clawing fingers carried the depth lever back until it was probing his stomach. The hull screamed its protest at this crass defiance of gyroscopics. They shot up and felt themselves hurled back into the current as the loop reversed their direction. Like a powerful net, the all-encumbering current tore at the *Rotifer* with fingers of steel, slowing it down to ten miles an hour!

The motors howled with the unwonted strain of the fifteen-mile current. Lan set the controls and stood up. "It's our bid for life," he told them gravely, swaying about as the ship jerked this way and that. "There's one chance in a hundred that we'll come through safe."

Silently he went to the window and glanced back. The others joined him. Sweat stood out on their faces as they waited.

Behind them the *Equalizer* was just climbing up into a vertical turn, its silver hull shining under the rays of the deadly flame. Even from here it could be seen to slow down. It rocked and bounced in the speedy current. Lan whispered, *"Now!"*

The word was a signal of violence.

As the bathysub came into position behind them, the long tongue of acetylene flame was seen to waver and flutter in the swift current, bending back like a

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The Mosquito Army

By H. M. CRIMP

It is interesting to note that this story comes from an author in far distant Australia. We have had a number of stories depicting the insect world, but here we believe is the first description which has appeared in our pages of the mosquito, in which the insect, generally regarded with little favor, is depicted as doing a great service to civilization.

FRESH from his triumphs over invading hordes of locusts which had almost depopulated the world, Professor Scott felt the urge of an Alexander to add fresh victories to his late success. Fame, fortune and, with the latter, leisure, were now accorded him; but leisure to him meant just more and more unfettered opportunities for work—at tasks which interested.

He had before him a boundless unexploited field. He had set himself a problem which was to understand life and to control insect movements, by an inside knowledge of the laws and impulses which affected insects as they lived and moved and had their being. He aspired to learn insect language, as it were, and to inspire, guide and control insects by speaking to those humble beings in their own speech or through such rudimentary agencies as supplied its place. Since, however, such primitive intelligences could hardly be expected to rise even remotely to the possession of a language, his actual aim was to discover the psychological causes of insect movements, migrations, plagues, the motive power behind instinct, to see if he could solve the mystery sufficiently to change the instincts of harmful insects, and to teach them less obnoxious habits, or even readjust their ways to be of service to mankind.

Professor Scott was a visionary; he glimpsed pictures of spiders spinning long-stapled threads which machines would weave into a stronger, glossier and better silk. He saw caterpillars no longer ravaging the leaves of the vineyard but assisting the farmer to eradicate the harmful tares of the soil. He saw the humble fly so reformed that it became a scavenger which removed filth, but did not make itself a menace by carrying pollution into undesired places. He saw . . . other visions; they were many, and the problems they suggested were absorbing and varied; but they all focussed into one pertinent question and that was—which should he attempt first and where begin?

The Professor had already achieved considerable success in ordering the direction of a locust migration and inspiring it with vigor; but that had been a very elementary achievement compared to what he now projected. He looked around. Insect pests swarmed everywhere,—moths and caterpillars, grubs, flies, mosquitos, spiders, beetles . . .; there was no limit to opportunity, but work for his lifetime and for many workers after him. Where should he begin?

Chance decided him. The cotton fields were at the time being threatened by another devastation of that small demon of destruction, *Anthonomus Grandis,* the

cotton boll weevil. This pest called, also, the Mexican boll weevil, had reached Louisiana in 1905, coming presumably from Mexico, and had achieved such a power of destructibility, that in 1907 it had destroyed $25,000,000 worth of cotton crop. Its destructive ability since then had cost the cotton growers millions of dollars, and the prospect was that it would continue long to be a pest.

Professor Scott considered the weevil.

"Since the boll weevil," he remarked to a young science student, Jimmy Blake, who had joined the elder man as disciple and assistant, "since the boll weevil pierces the cotton boll and lays its eggs inside the young flower buds, the problem of destroying eggs or larvae by sprays or fumigation is practically impossible. We must attack the problem by much more subtle methods and either change the weevil's habits or influence it to change its taste for cotton. Anyway we'd better journey down to the cotton fields and study the problem from the beginning."

"Good idea," agreed Jimmy enthusiastically, "Let's go."

So a week later Professor Scott and his assistant were camped in an isolated spot near a marshy swamp in Louisiana, beginning with enthusiasm a study of the life history of the boll weevil. Their camp location was a quiet secluded one, right amongst the cotton fields, yet hidden in a remote spot where the professor thought he would be able to work in quiet concentration. But he had omitted from his calculations one small matter, and that small omission, in the hands of Fate was to become a mighty factor in the affairs of Nations.

Professor Scott had forgotten to consider mosquitoes.

"Smack, smack." The sound followed the action of busy, unerring hands, and each smack left a splotched mark of blood from the gorged and bursting body of a mosquito.

"Gee, but they're fierce." said Jimmy Blake as he made another smack and ruefully surveyed a hand marked by several swellings. "Sure, they're a vicious lot. Why we're as bad here as if we were over-landers hemmed in by Indians and them shooting arrows into us. I vote we beat a retreat; this mosquito army's too warlike altogether to suit me."

"You've uttered good, sound wisdom there," replied the Professor, "And used a very apt metaphor. Yes, very apt; but the mosquitoes remind me more of a troop of lancers rather than of archers. They remind me of a line of knights charging an enemy. It occurs to me that if Christendom had sent an army of mosquitoes instead of knights upon the Crusades, the Saracens would have been chased out of Jerusalem without any trouble at all." He, too, viewed his blistered hands and rubbed his itching face. "Yes, we'll have to beat a retreat, and devise some sort of a counter attack. We're in the region of the malarial mosquitoes. Some of these are *Anopheles,* and though the bite of every one does not cause malaria, unless it has been previously inoculated, we cannot be too careful. Yes, let us get back under the nets and devise some sort of protection."

His mind taken off the study of the boll-weevil by the necessity of the moment, Scott was forced to consider the mosquito, too, how it stung, and how to stop its stinging.

IN his experiments with locusts the Professor had used an electric apparatus which sent out radiations and so influenced the insects to action. On his return to his tent he put one of the instruments into action; but it was as impotent in affecting the mosquitoes as was the fabled rebuke of King Canute in checking the waves.

"It is evident," remarked the Profes-

sor, that mosquitoes do not understand the language of the locusts. We'll have to change our tactics, Jimmy. How do you agree with that?"

"Quite well." replied Jimmy.

"There's another experiment I've often thought of trying and that's this." continued Scott. "Hiram Maxim, when experimenting with bulb manufacture, found that the humming reverberations, given out by a vibrating bulb, attracted the male mosquitoes. He experimented with tuning forks attuned to the humming sound of the females. He found that the males would cluster around the sounding fork and sit motionless. We'll try that; it might be a starting point to this problem as well as to the boll-weevil question."

The tuning fork experiment was quite successful with the male mosquitoes; it attracted them and kept them inactive. It was, however, the female mosquitoes from which they needed protection; it was they which bit—not the males. Experimenting with musical sounds, to attract the females and so entice them away from the spot where the scientists were working, the scientists had little success. The first experiment, however, gave Scott an idea.

"Previously," he observed, "I've used just a constant wireless transmission. The rhythmic idea may have something in it. What we'll do now, Jimmy, will be to drop our weevil researches for the moment and experiment with mosquitoes for a while."

"How about starting with an audible rhythmic wave and gradually shortening the wave-length, stopping and starting with some sort of regularity as if repeating a letter in the Morse code," suggested Jimmy Blake; "making it a rhythmical transmission?"

"Exactly. We'll see if we can achieve something in that way." agreed the Professor, bending to the controls and making adjustments upon his transmitting apparatus.

So the Professor sent out rhythmical impulses which at first were audible as a faint, shrill, persistent and very irritating hum. He alternated his message with pauses of varying length—hummmmmm, pause hummmmmm, pause hummmmmm and so on. He varied his time and gradually shortened his length till he passed far out of the region of audibility. Then he got his first accidental success.

ALL this long-continued experimenting had been tedious in the extreme; its operation became automatic and it was difficult for the operator to keep his mind alertly upon the work. The Professor was operating the transmission key, while Jimmy lolled on a camp stool sleepily watching. Scott was considering a new line of action, the present one being a failure and his thoughts were far away. Then Blake looked up. The mosquito net at the entrance of the tent had been black with mosquitoes. Suddenly he noticed that the net was spotless. Curious he stepped outside the tent. Not a buzzing insect was to be seen. In excitement he entered the tent again. Scott had just mechanically changed to a new wave-length, and a different rhythm.

"See, see, professor, there's not a mosquito in sight." cried Jimmy to his elder, "You've clicked on something."

"Eh?" asked the operator, waking from his day-dream. "What have I clicked on?"

He stopped his operating and Jimmy explained. In the short interval another change occurred and the mosquitoes began to return.

"A moment ago there wasn't a single insect about; now they're coming back. You must have hit on something; play the same tune again." said Jimmy.

But in his absence of mind the Professor had no recollection of just what

variation of dots and dashes he had struck. He had a fair idea of the wave-length, but that was all. His note was another "lost chord," played on a different sort of organ. It was a most disappointing misadventure. He tried to recollect; he stopped and thought; he tried again; but on each and every occasion the mosquitoes remained motionless upon the net or buzzed about outside, rabid with eagerness to get past the screen.

"Well, a thing that's been done once can be done again, Jimmy boy, so there's nothing for it but a slow and patient return over all the possible paths we trod before." sighed the professor as he pondered over his apparatus. "It's a process which scientists are accustomed to—yes, only too much so. But we're going to repeat that success—for certain," he declared hopefully. With alert care he began again—to rectify his momentarily incautious lapse.

WHILE Professor Scott was toiling and experimenting to help on the cause of civilization, there were even then gigantic influences at work striving with mighty forces to wreck all established things. The East, a potent breeding place of devastation was about to send forth another horde, more relentless, more barbarous than any horde of Huns or Mongols or Tartars.

The Russian Soviet had found a new leader, a more ruthless, plotting schemer than the many that the system had so far produced. By devious and very underground ways, Krilloff had attained a power more absolute than any tyrannous sultan had ever dreamed of. He held that power by force of a subtle, scheming brain, a ruthless determination, and with the elimination of all opposition by a body guard of paid assassins.

Krilloff was ambitious with a frenzied desire, a rabid monomania. Other Soviet leaders too had had some such desire; but they had been content merely to plot and dream, waiting for the ripening of slowly evolved plots. Krilloff, however, was different. Rapacious as a hungry tiger, ambitious as a super-Napoleon, he wanted immediate action and he got it. With a genius for organization, he soon had gigantic plans underway.

Krilloff's ambition was World Conquest; he aspired to be a Monarch Supreme of every acre of this habitable globe. He learned a lesson from the great World War. He reasoned that the failure of the Germans, then, had been slowness of transportation at the very start. That and surprise would not be factors that Krilloff would neglect.

Accordingly his plans were a deadly, dark secret. Under the guise of a five-year plan, a subsequent ten-year plan and some such other plan, he had masked the great and unusual importations of materials for preparation. Then, in a very secluded valley of the Caucasus, he had established a gigantic factory for airplanes and munitions. Here gigantic weight-carriers, powerful and swift, were built in thousands. Here his laboratories turned out bombs and poison gases —explosives more powerful than T.N.T., poisons of the deadliest modern arsenical compounds.

HERE, while the nations of the world droned on in listless disputations upon an impossible world peace, the Russian plotter worked to make that ideal a reality—but a reality to a world of slaves rather than to a world of free peoples. In Russia he had a secret army of millions, while the remote interior of China provided him with a carefully drilled army of coolies for all sorts of labouring jobs.

Then out of a serene sky the monstrous deluge burst. Thousands of mighty, swift, long-range planes rose up

one summer evening and sped off through the darkening night on radiating courses which ended at the capitals and chief cities of Europe.

On through the night they flew at speeds up to two hundred miles per hour. Then circling over their objectives at earliest dawn they all loosed their rain of murder at an identical moment. High explosive shells, incendiary and poison-gas bombs, rained down faster than summer hail. Indiscriminate in their aim they poured down alike upon military arsenals, commercial centres, the homes of the rich and the dwellings of the poor.

Where the cities were of the older type, buildings of stone and brick, the high explosives disintegrated them to powdery dust and flung up mighty spouts of pebbly splinters to fall in a jagged hail miles away. Where the buildings were of humbler wooden materials the incendiary missiles lit them into raging holocausts of flame which soared up like beacon lights, warning the world of tragedy and becoming the funeral fires of thousands. Explosive bombs, crashing down amongst the new constructions of concrete, sky-scrapers, splintered and cracked, toppling down Science's latest building achievements into a jumble of twisted iron, broken masonry and dust.

So well were the fiendish calculations made that only in isolated instances were warnings given of the death rain from the sky; and then the time was too short for more than a thrill of terror to shake the observer before the deluge descended and terror was soothed by death. In every large city of importance the attack started at the same identical moment. Thousands of sleeping citizens were shot from slumber into eternity; thousands more were shocked into life with torn and broken bodies, to linger in shrieking or moaning agony for eventual death under toppling buildings or to be killed by deadly gases which began to spread like the mists of night over the scenes of destruction.

To some death was sudden; to some he came with lingering, agonizing clutch; but some had miraculous escapes. Thousands of these, some quite unhurt, some hurt but not disabled, rushed in frenzied terror out of their falling houses. They formed units of terrified mobs which rushed in blind, leaderless confusion here, there, anywhere—shrieking, cursing, praying—looking for that safety which few found.

Some of these mobs rushed blindly into clouds of poison gas, wilted and—died. Others became the targets of dropping bombs and they just vanished—disintegrated. Others took refuge in cellars, under the shelters where toppling buildings had created caverns of refuge; others disdained any protection but rushed on, marvelously escaping death at every turn. These crowded into automobiles or rushed on foot away out from the centres of destruction to the comparative safety of rural seclusion. Here they escaped danger for the moment. Others kept their heads, and, filled with the nobility of heroism, began with calmness to succor and help the maimed and the suffering, as soon as day came to show them the dreadfulness of the scene.

THOUGH generally there was death and destruction, here and there like oases in a desert, there were small areas where the bombs had not struck and to which the gases had not clung. Here many frenzied people gathered and here the heroic angels of mercy began their work. Here, while the gigantic planes of death soared overhead, the work of mercy went on, heroism rising superior to the paralysis of fear, when there was need of heroism.

The Russian bombardment lasted an hour. When it ended there was a scene of devastation in every city. Here

tumbled areas of smashed ruins; there blazed flaming furnaces of burning buildings. In the hollows there were settling smoky clouds of gaseous vapors of death. Here and there were left standing unscathed buildings. In one place in one city there was a tall tenement house, in which not a person was even scratched. In another a lofty concrete building escaped destruction and stood up above its razed companions like a lone monolith in a graveyard. But these areas of immunity were scarce—very scarce. The fiends of destruction had done their work well—too well, aided by all the latest helps that Science can give the God of Ruin.

The picture was the same everywhere. London, Paris, Berlin, Brussels—every capital, every city of any size—all were in partial ruins—all were centers of despair or—tombs. The risen sun saw universal destruction on the ground; and in the air the cruising hawks which had created the inferno.

All munition works, all munition depots, all military barracks had by this time been blown up or gased, so no opposition was likely. Then the first edict of Krilloff, the World-Emperor, was broadcast. There was to be no opposition anywhere. All people were to assemble at indicated spots and wait for orders. Opposition meant instant death. Cowed, leaderless, the terrified people had to submit.

Meantime racing trains and speeding automobiles were bringing Krilloff's second line of troops to the scene. Other speeding planes dropped governors, directors and slave drivers to the earth; and very soon the World-Emperor had conquered the first part of his kingdom.

In a month the free peoples of Europe had been turned into a multitude of slaves who lived and moved just as Krilloff ordered through the mouths of a million slave drivers. In a month some order had been evolved out of chaos, and already the conscripted slaves were toiling at the work of rebuilding their cities, or at such tasks as their masters ordered.

Then Krilloff had time to begin the second stage of conquest. This was the invasion of the United States.

LIKE Napoleon in his invasion of Italy he had, however, his Alps to cross. The Alps in this case was a barrier quite as formidable—the wide Atlantic Ocean. Though he had gigantic airplanes capable of carrying a hundred tons each, and speeding at two hundred miles and over per hour; though he had bombs with a mighty power of destruction and thousands of trained troops; yet he did not now have an unsuspecting, helpless people to attack; nor did he have his objective comparatively handy to his base. Krilloff's attack on America was to be no easy task, so he took time and consolidated his forces. Nevertheless two months after his airships had rained terror over Europe, his air flotillas rose up in their flight to Western conquest.

The people of America had in that two months a period of anxious warning and of frenzied preparation. Their engineers had designed deep, bomb-proof shelters below their cities. Their chemists had compounded and compressed many cylinders of neutralizing gases. Their manufacturers had made gas masks and other protective devices, while the military had burnished up the arts neglected during peace talks, and were ready with fighting planes and anti-air craft guns. Truly when Krilloff's hordes came he would not find a waiting, helpless foe.

The Soviet air fleet was met in mid-Atlantic by the picked fighters of the United States' air force. The faster, bigger, more powerful planes of the in-

vaders simply soared up over their attackers and, from above, their hail of incendiary explosive bullets did the rest. The defending fleet never returned.

Quebec in Canada was the first city attacked. Then a base was established on the plains adjacent to the city. From here the far-flying planes would attack Chicago, New York and other American centers.

The defenders driven from the air, and their armies wiped off the outward surface of the earth, the invaders apparently had it all their own way. Thanks, however, to their two months of superhuman preparation, the nation was in a position to protect itself for a time. In the cities all underground cavities had been prepared as refuges—cellars, underground railway tubes, sewers even, drained clean, and all joined by intercommunicating passages. Food, water, air-purifying plants were all provided and the people of the cities went into the earth to escape for the moment the expected fury of the enemy. The cities were cleared of inflammable materials.

In the country natural caves, mines and tunnels were all brought into use and filled to their limit with scared refugees. Krilloff's attack thus found a nation ready and his attack caused little loss of life. Though modern buildings went crashing down, each heap of débris served merely to bury the underground refugees under a deeper rampart of protection. Thus the Soviet attack soon developed into a siege.

As soon as possible the invading forces formed armed camps about each city and began an abortive attack upon the tunneled-in people. Then the military took their turns and issuing from unexpected outlets carried on an irritating, guerrilla warfare with light guns, firing gas bombs and shells. It was, however, a hopeless defense. Soon starvation and suffocation was the certain fate of the cooped-up refugees. The forces of the Soviet had merely to police the surface of the ground and surrender was certain.

IT was while he was absorbedly concentrated upon the re-discovery of his lost formula that the first news of the outbreak of barbarism reached Scott.

"Dot—dot—dot-dashhh; dot — dot — dot-dashhh." his soundless transmission was speeding forth. "Dot—dot—dot-dashh."

Jimmy Blake came in hot and excited.

"There's another war broken loose in Europe; here's a paper full of it." he cried dropping some packages and opening his journal.

Scott looked up with the far-away gaze of an absorbed scientist.

"Don't interrupt, Jimmy," he jerked out peevishly, "I think I remember just how I struck those keys. Just a moment and I think I'll get it." He bent to his task absorbed, oblivious to all outward happenings. The heavens could have fallen at the moment but Professor Scott would not be moved.

His concentration was justified, for within half an hour the Professor struck his lost chord again. It happened in a moment. As he played his noiseless rhapsody, this time with his mind keenly upon his work, he noticed a sudden movement amongst the mosquitoes about the nets before the door. He had barely played his tune for a dozen beats when they all rose up in a cloud and flew off. He stopped; so did they and began to drift back. He started again, and again his silent melody inspired the insects to action.

"I've got it Jimmy." Scott cried exultingly. "I've got it." Before such a discovery the greatest crisis in far-off

Europe was of the very smallest concern—to the absorbed scientist.

Taking the fullest record of his wave-length and the exactness of the periodic variation of his transmissions, Professor Scott and his assistant worked out many diversifications of their theme. They found, after some weeks of trial and experiment, that they had compiled a code of signals which had wonderful effects upon the action of the mosquitoes.

Their first crude success had been to stir the mosquitoes into action and cause them to fly from the transmitter. When Scott proposed to delve further into this, Blake was surprised.

"Why?" he asked. "We've done all we wanted! we found a way to scare the pesky things from the tent, so that we can go on with our weevil researches untroubled."

"Why?" Scott repeated. "Why? Don't you see that we have got a starting point with another insect as well as with locusts. If we follow this up and compare results we may get such results as will make our study of the weevil the simplest of matters. No, we will go on. In science it is always best to follow the discovered track, even though it may not seem to be leading where we want to go. So let us do some more experimenting along the lines of our discovery."

The decision was sound since result followed result. Their earliest transmission they found had been crude and comparable to an attempt at producing stirring martial music by an untrained orchestra playing discordant instruments. By careful modulation of wave-length and rhythm the Professor found that his song had become more tuned to definite harmony. Now his ray did not excite the insects to a wild, frightened scurry, but to a steady purposeful flight, a flight away in a defined direction, not away to every point of the compass. He found he could vary the direction by slight variations of his transmissions. That in itself was a wonderful achievement.

THEN he made an epochal discovery; he found that one of his variations caused the insects to assemble around the adjacent marsh and deposit eggs. He stopped at that and reasoned out his results. His conclusions were that his transmitted waves were acting upon the nervous systems of the insects and getting action in much the same way, but to a greater degree, that a good dance band will create an almost irrepressible desire to dance. On that theory he continued his experiments, microscopic and other tests going to prove the correctness of this supposition. Then results came thick and fast.

He could collect his mosquitoes around him in thick swarms or could scatter them in all directions. He could send them off in any direction; he could stimulate or retard their laying desires; he could also stimulate or retard their capacity to bite or feed. In short the Professor was attaining a complete control over the insects. He was elated to the realms of transport, so much so that the downfall of Europe became a matter of small moment to him. Then the invasion of America occurred; but it was not till bombing planes came roaring past, after the razing of New Orleans, that he woke up to the realization that tragedy was afoot.

When newspapers ceased to come, as mail transport stopped; when all wireless stations had closed up on broadcasting; then Professor Scott closed down upon his experiments, to look at reality.

His camp had been chosen for isolation. It was well stocked with stores so he was not disturbed by the invaders nor troubled yet by scarcity. The inhabitants in the surrounding cotton-fields had not yet begun to suffer from the

invasion; but all were filled with the wildest fears. New Orleans had been blown into a shattered ruin, and several other towns had been scared by an occasional dropped bomb, but otherwise no harm had come to the rural regions.

On the other hand the wildest rumours were current regarding the situation at New York, Chicago, Washington, Philadelphia, Boston . . . everywhere where there were large centres of population.

In the cotton fields a few, a rare few, went on undisturbed with their rural pursuits. Most of them, however, particularly the negro element, collected in groups and held wild, excited religious séances. Others began frenziedly to drain wells or clean out cellars, provisioning them for hiding places. Some of the well-to-do filled up their auto cars and loaded on necessities and began a wild trek, a new generation of overlanders, to the Western mountains. Everywhere there was excitement, frenzy, fear and concentrated anticipation of danger.

Awake now to the dreadful reality, Professor Scott went about the cotton fields getting all the information he could. Jimmy Blake accompanied him, the latter quiet and stunned with the numbing realization of the disaster. They pieced together the wild rumours and sifted out the false from the fact, and then realized that most of the big cities were in a state of siege by an enemy whose strength was being increased each day.

"You once said that it would have been better to have sent mosquitoes to attack the Saracens in the Crusades than knights." Jimmy Blake said to Professor Scott. "Considering your command over mosquitoes, wouldn't it be a ripping good idea to send a few billion buzzing about them Bolchevics and keep 'em busy, while our men have a crack at them."

PROFESSOR SCOTT came out of cloud of thought, "Jimminy, yes," he said unprofessionally. "You get good ideas at times, Jimmy, my boy. A mosquito army, malaria, instead of poison gas, or bombs. *Anopheles* instead of airplanes. Jimminy yes. You know in the early days of war it was disease which did more damage than all the spears and arrows, guns and bayonets of the enemy. Now, to-day, in modern and enlightened times, we will use bacteria to fight for us. Yes, Jimmy, the mosquito army is going to be a real factor. Yes, disease germs let loose upon humanity has often been proposed, but I have never heard of a definite case where it was done or where such a course was successful. A disease germ generally speaking does not have a very long and vital life when loosed broadcast, dissociated from the conditions which it needs for life. But a malaria germ introduced by its natural carrier, an *Anophele* mosquito—well—that will be another matter. Yes, Jimmy, we will enroll a new army of knights in defence of civilization. Necessity knows no law. We must conquer, or lose all that Civilization has accomplished in two thousand years. We'll see if Science can outwit Craftiness; and with the humblest of instruments defeat the mightiest."

"Well, we'll have a darned hard try anyway." said Jimmy Blake in enthusiastic agreement.

"Then that's decided;" said Professor Scott, "but the actual method of accomplishment is not going to be so easy. For a start mosquitoes, *Anopheles* in particular, do not fly far when left to their own resources. A few miles, five or six per day would be a long, long journey for a mosquito. If we were dealing with locusts, now, it would be

easy. But we're not," his tone was rather regretful.

"Couldn't you conscript a plague of locusts to act as airplane carriers for your mosquitoes." suggested Jimmy with flippancy.

"Possibly, if we could create a plague in a day or two," replied Scott. "But we can't work actual miracles—not yet. No, our plan will be to arrange transport for the first contingent of our army and then breed our troops upon the actual battleground. That's a way of overcoming transport problems which no military leader has thought of yet." He added the last sentence with a twinkle of humour. Then he continued seriously, "Mosquitoes take one to three days to hatch from the egg. It takes each insect something less than two weeks to pass through the larva and pupa stages and develop into a perfect mosquito. Possibly we may be able to accelerate that rate. In any case we can be sure of breeding our warriors in a couple of weeks; and that is not so bad."

"But they will not be inoculated with malaria then?" Jimmy was curious and interested.

"No," replied Scott, "The cycle of development of malaria is like this—A mosquito bites an infected person. The malarial germ must come from a person suffering from the disease in the first place: the mosquito does not produce the germ—it merely develops and carries it. In biting a person suffering from malaria the mosquito sucks in with the blood sexual forms of malaria germs —macrogametes or males and microgametocytes or female germs. These forms enter the insect's stomach where they combine to form zygotes which again divide up into sporozoites and finally appear in the salivary glands of the mosquitos. The insects are now ready to inoculate a person with disease. This stage in the mosquito takes about twelve days. When the mosquito bites a person a non-sexual cycle begins. The sporozoites grow and finally divide into other sporozoites till in two weeks they become so numerous that the toxins liberated cause chills and such symptoms. Finally sexual forms appear, macrogametes and microgametocytes. The bite of a mosquito at this stage would repeat the process all over again."

"Then it would take well over three weeks from the first inoculation of the mosquito to the stage when the person bitten was definitely afflicted?" asked Jimmy.

"Well over three weeks to complete the cycle of development from mosquito to man and back to another mosquito, yes; but the man will have begun to feel the effects of malaria before that."

"But shall we have time to go through all this formula. Will not civilization be wiped out long before we can get our mosquito army moving?" Jimmy was puzzled and sceptical.

"NOT necessarily. You see, we have the mosquitoes under control now. There are sure to be a number of persons suffering from malaria at this moment within a dozen miles of them. Well, we'll take our section of advance troops to them and load up on ammunition—or zygotes which will be incubating as we convey them to the fighting front. Another army of pioneers will accompany us. These latter will be all the *Anopheles* which we can gather together. These we will stimulate into laying eggs and by the time the advance guard has started the epidemic in the enemy the pioneer troops will have finished laying and be ready to inocculate themselves with germs. When they are ready to enter the firing line, there will be millions of young recruits

hatched out to supply the wastage in the ranks. It's a sound idea, don't you think?"

"Too right it is." agreed Jimmy. "When do we start?"

"Just as soon as we can find a few cases of Malaria for initial ammunition and a couple of closed motor wagons to fit up as transports," replied the Scientist.

Their initial preparations did not take long. They packed up their indispensable transmitting machine on their own automobile and set off on an exploration for equipment.

FROM his location north of Lake Pontchartrain Scott drove northwards through Mississippi calling at each small town and scouting around to enlist all suitable persons he could find for his enterprise.

So far, a little over a month from their first landing, the invaders had accomplished very little in actual conquest. In the cities the inhabitants had dug in securely. Chemists had discovered efficient antidotes for the enemy's gases, and the military had contrived by frequent and unexpected sorties to hold the Bolchevics in check . Food however was growing scarce and the air-purifiying machines were hard put to it to keep the air healthy. There was no chance at all of victory and small chances of holding out for long; yet none of the isolated and entombed communities even thought of surrender.

In the rural localities, those removed from the larger, besieged cities, there had been little disturbance from the enemy, as yet. Hence Scott and his companion were unimpeded in their movements.

Here and there they picked up suitable men around the small towns. Several were local doctors, all specialists in malarial diseases; another was an entomologist studying Coleoptera, a lucky find. Then there were several electricians and a motor mechanic.

Called together as a committee in a tumbledown shack, the whole fourteen of them were keenly enthusiastic and formed themselves into the general staff of the Mosquito Army.

The first essential was the manufacture of a number of Professor Scott's electrical transmitters or mosquito controllers. While these were being got ready, the motor mechanic had discovered five suitable wagons and began overhauling them and wire-netting them in for mosquito transport. The medical men had no difficulty in providing malarial patients who would supply the inoculation virus. Professor Scott and Jimmy then conducted classes of intensive study to acquaint all with the procedure to adopt.

The Professor took the post of commander-in-chief, with Jimmy Blake and the entomologist, Gordon, as his chiefs-of-staff. The four doctors, Bremer, Barbour, Mencken and Sanders were each styled generals and put in charge of a wagon, or army corps. The electricians became the intelligence corps, and the mechanic the chief of transport.

That being accomplished, the Professor set about his selection of mosquitoes. His methods of control was by no means so thorough that he could make a selection of the various species. However, by careful investigation he was able to fill his wagons with a greater number of Anopheles Quadrimaculatus and Anopheles Crucians, both vectors of the worst forms of malaria, but many others, some Culex and some Aedes became included.

"THEY'LL all help the general scheme." the Professor commented as he surveyed his catch as they clung

to sheets of cloth suspended from the roofs of his transports. "If they cannot do other damage they at least will keep the enemy on the move."

Under the influence of a soothing ray which silently purred its symphony, the Diptera were passive and quiescent in their captivity, the resting pose of the Anopheles, with an angular position of body as distinguished from the parallel position of the others, marked the actual warriors of the army from the merely irritating irregulars.

"Would it not be possible to infect the enemy with much more deadly germs than malaria?" asked Jimmy Blake.

"Possibly," replied Scott, "but then one never knows just how such a course may result. In the case of malaria, it is not its actual death-rate which is its greatest evil; it is its sick-rate, its destruction of efficiency, which makes it a scourge; and it is that very quality which will be of the greatest benefit to us. We shall not be endeavoring to kill our enemy in actuality, but we shall be incapacitating them while our soldiers, our human army, gets a chance to come out and fight. Carter, in one of the United States Health Service publications points out that with Typhoid 1% is a bad epidemic; but 40%, 60% or even 90% is common with malaria. So you see we might loose a scourge of typhoid and only incapacitate a few of the enemy; but with malaria we might render the whole force incapable. No, it seems to me that we could not have gotten a more perfect defence force than our mosquito army, for with it we can attack at a distance quite securely, while with our mosquito controllers we can guide the direction of the attack and intensify it as we like. No, it seems to me that we could not have picked on a more perfect attacking force, if we had specially bred mosquitoes for the occasion."

Everything being ready, including the feeding of the Anopheles with infected blood, the army moved off. The plan of campaign was for each of the five wagon units to proceed to the five chief cities being attacked, there to get under cover and begin the onslaught. Scott, himself, chose New York; Doctor Bremer was to go to Washington; Barbour to Boston; Mencken to Philadelphia and Sanders to Chicago. If successful there, each unit was to move off and go to the help of the next nearest city. By carrying out this plan and by enrolling any help available the Commander-in-chief, Scott, hoped to have his Mosquito Army in full attack within a month. Gordon was detailed for general supervision and Jimmy Blake to get in touch with the besieged military authorities and acquaint them with what was being attempted.

Over a thousand miles of travel lay before the wagons. Luckily the supreme egotism of the invaders, and their extreme contempt for their opponents had lulled the Russians into neglect of all outside their chief objective, the overthrow of the cities. The rural districts were left alone except for levies of foodstuffs. Hence the mosquito transport met with no opposition, beyond the great difficulty of getting motor fuel. Several days of hard travel brought the army close to its objective. The different wagons then separated and Scott went on alone with Jimmy and the mechanic.

"Won't these here germs, you got, go and kill all the mosquitoes?" asked the mechanic in curiosity.

"Oh, no," answered the Professor, "not at all. That's the peculiar part of the business; no malaria germs are harmful to the mosquitoes themselves, they are hurtful merely to man. Another point worth noting is that each mosquito may infect several persons; so our present brigade of mosquitoes is probably quite capable of enough mischief in them-

selves without breeding a new host to follow after."

IN an immense circle around New York the invaders had pitched their camp. Rather they had taken possession of most of the finest homes on Long Island, and on the mainland upon the banks of the Hudson. Here was a scene of activity, planes flying above, frequently dropping bombs which burst with mighty shattering explosions.

There were not many troops noticeable on land; but Professor Scott was not a keen observer. He was too anxious to find some place of seclusion himself to trouble about the enemy at that period. At length a place of refuge was found where an immense concrete factory building had been blown up. Here under a cavernous shelter formed by great slabs of concrete, they scooped out a place for themselves and their motor.

Quickly they established themselves. The motor engine was used to develop electrical power, and immediately all the infected Anopheles were liberated and sent out with an urgent electrical impetus to scatter across the besieged area. The transmitter sang its silent song all the afternoon and far into the night. By that time the mosquitoes had spread far into the enemy lines and the first stage of the campaign had begun.

It had been decided that Jimmy Blake should endeavor to get into communication with the authorities who were known to be dug-in under the wrecked city. It was a difficult undertaking, not so much on account of the enemy lines, but because of the difficulty of finding the entrances to the subterranean city.

Jimmy set off, well guarded against mosquito attack, and well armed against the besiegers. It was one hour after 12 P. M. on an autumn night. A haze had settled over the ruined landscape and there was the first tang of a winter chill in the air. For a while Jimmy threaded his way along streets of deserted houses, where there was little wreckage. Then he came to a more devasted area and had to probe a way over and around shattered piles of wrecked buildings.

Except for an occasional plane which droned about overhead, wheeling and twisting in a casual observation, he did not see any of the enemy. He wondered at that; but concluded that the Russians were so self-satisfied at their invincibility that they did not trouble to post guards.

In two hours of hard going through a sterile desert of broken masonry, he met no sign of humanity. Growing careless he hastened on, being well into Jersey City. Then suddenly he met adventure.

He was wandering along a street where the tall buildings on either side had not been victims of the invader's shells. The night was very dark and misty. Suddenly the street ended in open land, a park. Jimmy strode on and found himself right inside an enemy post. It was a landing ground for enemy planes.

Little clumps of shubbery formed a dotted border around the open land and into the shelter of one of these Jimmy darted. Afar, over the field, a plane was just landing, and here were the only lights, glares showing upward. In the glow he could see men. Thrilling with the excitement of a first adventure, Jimmy crept to the next clump of shrubbery and on to the next. Then to the right, at the front of a tall building there were signs of drowsy life. Once amongst the enemy fear seemed to leave him and he felt he must find out all he could. Taking advantage of the shadows he crept as near as they allowed.

IT was approaching dawn; he had little time for spying; but he was keen. Then he noted a fact which filled him with elation. Though speaking in Russian the actions of the sentries were sufficient—they were smacking and scratching at mosquitoes.

"The plot's working," muttered Jimmy, and went on.

The contemptuous carelessness of the sentries created a corresponding carelessness in Jimmy. He walked on less stealthily, passing across the open land quite safely. Then as he was about to pass again into the newly devastated streets he came right amongst a group of Russians.

They too were cursing in low tones and using much energy in smacking invisible mosquitoes. All this Jimmy saw in a flash. Then the others saw him and a chorus of friendly greetings were shouted at him, or such he deemed them. If he had understood Russian he would have passed the crisis safely; but he did not. For a moment he stood still—a moment too long. Suddenly suspicion entered the minds of the enemy and a hoarse shout roared.

That shout galvanized Jimmy to action. Up went his automatic and "Spit, spit, spit" darted its defiance. Two men went down in front; and Jimmy dashed forward. Like a charging bull he went forward his gun spitting, "Bump" he was into a fat Bolchevik. There was a grunt as the big man collapsed and Jimmy was through.

He dashed on into the darkness. The black night behind him was lit with spurting jets of flame where the Russians fired at his dim figure. A mass of ruins formed a mountain ahead; Jimmy bounded up the declivity and took refuge behind a slab of concrete. From here his gun flashed back, and there was a spirited gun fight in the darkness, each side firing at the gun flashes, but beyond the nerve-wracking experience of a hail of bullets smashing around him, Jimmy was not hurt.

The roses of dawn suggested the need of escape, a need made urgent by the arrival of new troops, coming up excitedly with a machine gun. As the gun began to shower its hail, Jimmy slid down the ruins and ran. An encircling file of Russians was even then working around to cut him off. They did not see Jimmy at first, so his introduction of himself straight down a sloping hill, was sudden and irresistible. 'Spit, spit, spit . . . Bump." His gun gave warning first and then his shoulder crashed into another enemy, and he was through again and away.

A narrow lane opened before him and he dashed for its dim security. With a roar the Bolcheviks bounded after him shouting and firing. Jimmy ran, not returning the shots to give his enemy less idea of his direction. He ran on, here blocked by almost impassible piles of débris, finding a way there through unexpected passages, managing to keep ahead, evading capture, missing bullets by Luck's merest margin.

The chase went on relentlessly the dawn growing clearer to help his pursuers. Jimmy rushed on, running, climbing, sliding, dodging, as the débris allowed. Then for some minutes he saw no foe and heard no shot. He slowed down to let his panting heart get rest; he felt he had got clear away. A mass of ruins blocked his path; he crawled over; slid down beyond; stepped incautiously around a jutting heap and walked into an open space full of Russians.

Their roar plainly meant surrender. Any other course was hopeless and Jimmy threw down his gun. At that moment the crackle of a machine gun burst out. Bullets sputtered across the ruins and the Russians began to fall. In

a moment it was all over and Jimmy stood bewildered, the sole survivor of the scene.

Too astonished to run, he remained still. Then from behind a taller mass of ruins there stepped into view a lieutenant of the United States Army.

"Here, you," he called, "Who are you?"

"An American looking for some way of joining you boys underground. I've got news for the man in command."

. . . . . .

THE message Jimmy Blake carried to the despairing, cooped up refugees changed despondency into high hope. Buried as they had been in ill-lit, badly ventilated dungeons, in a crowded underground city whose only streets were narrow telephone conduits, smelly sewer pipes and hastily dug communications, it was not to be wondered that sickness had begun to take its toll. Now there was a chance of liberation and hope ran high.

The underworld had been well organized; there were telephone lines of communication to all the principal cities and to all large underground shelters. Thus Jimmy's message was passed around and preparations were made for a general support of Scott's plan.

Soon news came through that all the other army corps of mosquitoes had arrived and that everything was going according to shedule. Then Jimmy Blake decided to return to Scott's camp. He was shown the nearest secret exit of the army and speeded on his way.

"Everything's going O.K." he reported as he greeted Scott. "All the others have arrived and our stunt is a sure winner." He then went into full details of the plans he had arranged for a general attack, as soon as there was definite evidence that the mosquitoes had done their work.

They had. Before many days had passed it was very evident that a very bad epidemic of malaria had attacked the Russian camps. From each broadcasting center the wireless messages had gone forth and spurred the insects to ferocity in their attacks. The uninoculated insects, too, had been equally zealous. They had gone forth and in every place where there was moisture at all they had deposited their eggs. Every pool and laklet had been covered with floating eggs. Water butts, open drains, rain water puddles, all and each had a teeming population of wrigglers. The unsanitary habits of the Russians contributed also to their own downfall. They left filthy pools of spilled water around their camps and tins of liquid in untidy profusion. Into each of these welcoming refuges the mosquitoes entered and each in turn became a prolific breeding place.

The egg-laying battalion having done its share of the good work, they flew off to the attack. Plasmodium, parasite of malaria, was now reaching the right state of development, so the second line of the mosquito attack was able to absorb macrogametes and microgametocytes in preparation for their eventual transfer to the first line.

By this time the enervating toxins of malaria were getting in their good work. Already a great percentage of the Russians were incapacitated. This was very evident from the fewer number of the scouting planes overhead. The actual number of the efficient enemy was not yet materially lessened, since each day Transatlantic liners were landing thousands of troops. But for the mosquito army the country would have been hopelessly overrun. Mosquitoes, however, were being bred in millions so each shipload of soldiers merely served to feed the insatiable rapacity of the insects.

AT this stage the impatient troops underground wished to attack; their cramped quarters had become so unbearable; but Scott held them back. The time was hardly ripe. Luckily for the Americans all local population had emigrated from around the besieged areas. Underground the defenders had to exercise great vigilance to prevent the invasion of the mosquitoes; but nets at the secret entrances and fumigators protected them from danger.

The Russians, however, were caught entirely unprepared. Swelled with conceit on account of their easy conquest of Europe, they had not prepared for long opposition. Medical necessities had been made very subservient to munitions, while such a possibility as the mosquito attack was, of course, quite unprovided for. The high command, quite careless of the comfort of the fighting troops, took no precautions in the beginning. Afterwards, when they were themselves driven frantic by the torment of insect bites, it was rather late.

Each day thereafter brought the mosquito attackers in their millions and billions. By this time the malarial trouble had grown from a mere plague into a disaster. In vain did the Medical Staff frenziedly seek some remedy. In vain, for their knowledge and equipment were quite unable to cope with the calamity.

With amazing rapidity the disaster became a cataclysm, a catastrophe beyond all repair. Panic seized every combatant, from the highest officer to the meanest soldier. It was not so much the number of deaths; they were comparatively few; but the deadly sickness which prostrated all. With panic came the rush to escape. To the chills and fever of the early symptoms was added the frenzy of fear. The officers first afflicted hastily crammed themselves upon the airplanes and headed homewards, in retreat. The lesser troops in a mutinous rush seized all shipping idle at the wharves and put to sea. Others crowded aboard the arriving troop ships and forced their crews to return.

Disaster, however, overwhelmed most of these runaways; disease overtook many of the flyers and their planes dropped down to watery graves. A similar fate met most of the unskilled seamen who took their ships to sea. Just the same many did reach Russia in safety.

At this stage Professor Scott gave the signal to end the war. Changing their commands the electrical mosquito controllers called the insects from the battle ground and herded them together into a neutral area where they were held, pending further use of their deadly bites. Then the American soldiers issued forth.

But they had no need to come as fighters; rather as rescuers. Of their foes there was barely a man capable of resistance; all had either gone down before the calamity or had escaped. The army—for all men had been conscripted into soldiers—came out, every individual panting to have just one hit at their former gaolers; but in a mixed state of chagrin and joy found that their part was to stack arms and take up the duty of hospital attendants or gravediggers.

. . . . .

IT was well into winter when the nation had counted up its losses and got reconstruction under way. All the tottering convalescent enemy had been shipped back home and all their dead buried. Then the people began the heavy task of repairing the devastation of war.

The number of enemy killed or dead was not so great, nor the defeat so great as to be decisive. The Russians did not know of Scott's part in their

overthrow, for it was kept as close a secret as possible. The enemy thought that some unforeseen epidemic, due to a plague of mosquitoes, had devastated them; and it was an open secret that a new and far more terrible invasion would be made in the ensuing summer. The American nation waited that event with dread, for they presumed that the Russians would return prepared for all eventualities.

Krilloff with terrible oaths urged on his staff and the knout twirled and smote in every munition factory of Europe, as slaves toled feverishly to fulfill the tasks of their masters. A mighty, a very mighty, armada was being built.

Spring came, and the great air and sea fleets were almost completed. Mighty bombs and millions of cylinders of deadlier gas were piled at the dumps. America got discomposing reports of all sorts. Her people toiled to prepare for the new attack, but rather despondently. Scott marshalled his mosquito army but without enthusiasm; he did not expect results this time—wanting the element of surprise.

AS the winter snows melted in the south of Russia and the earliest grass shoots began to push up, no one bothered to note the presence of mosquitoes, particularly around the hangars which housed the war planes back from America, and around the docks at Odessa where the transports were anchored. No one had leisure enough to remark this until a bad outbreak of malaria occurred at Krilloff's chief depots. Even then, with the American defeat to warn them, nothing was done.

Some one did fearfully mention the danger to Krilloff, but he was too frenziedly intent upon his new offensive and turned upon the advisor in wrath. After that no one else dared approach him. Thus it was that millions of disease-laden mosquitoes came out of the cracks and chinks, where they had wintered and began to sow the seeds of a fresh scourge. They sowed their virus and they laid their eggs; they moved with unwonted vigor, still inspired by the energy Professor Scott had instilled into them with his machines.

Then summer came and the day of departure drew near; but that day did not come. Instead came a day when thousands of Krilloff's fighting men were prone on beds of mortal sickness, or lying dead with few to perform the last rites. Compared with this scourge, the one which defeated their army in America was as nothing. Mosquitoes flew everywhere in black clouds, active, greedy, venomous. They dared everything and got everywhere. In vain were mosquito nets spread; in vain were fumigators puffed. The insects got into the nets even as they were spread and new swarms filled the rooms as quickly as the fumes blew aside. All the Russian forces in Europe were recalled home to help attack the new enemy; but the newcomers merely came to be fresh fuel for the bites of the insects. Meanwhile the scourge was rapidly spreading Westward. All Europe was threatened.

AMERICA heard the news with horror and relief. All eyes were turned to Scott as the one man potent to be a deliverer.

In a powerful plane he set off Eastward with an escort of army planes. The Americans saw that now was the time to rout their enemy—on his ground. not on their own. While Scott flew to meet the spreading swarms of insects with a line of repelling instruments, the United States Army was organizing the people of Europe for a gigantic offensive.

The uprising was unnecessary. As Scott drove his mosquito flock back-

wards and it was possible to enter Russia, the full extent of the devastation was laid bare. It was ghastly and terrifying. Not only had disease taken a terrible toll but famine had completed what malaria had begun—thousands perishing from sheer inability to provide themselves with attention and food. Almost to an individual the nation was wiped out.

Everywhere it was the same. When relief corps penetrated this gigantic charnal house and reached Moscow, they found that the great Krilliff had been just as mortal as his meanest slave; he lay on the floor of his palace an unrecognisable heap of decay, a would-be giant, defeated by the frailest of living things.

So Scott again saved civilization; but it was a victory for Science rather than a victory for man.

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candle flame in a breeze. The *Equalizer* plowed on, faster, deadly, closing up the gap—and suddenly the flame was forced back until it brushed the silver hull!

Audible above the whine of motors and spinning hull were the men's startled gasps. Only Lan did not seem surprised. He stood there quietly, leaning against the curving window, watching a great, mushroom-shaped bubble burst from the craft behind them . .

For the deadly heat of the oxy-hydrogen flame had melted a tiny fissure in the side of the ship. Tiny—yet big enough for the first drop of water that would let in the bottom of the ocean.

The *Equalizer* seemed to disappear from their gaze. They could see only a million little sparkling lights dancing about like diamond chips in the sunlight, as the window glass sifted through the water. Then a round, flat shape turned towards them and the bathy sub, crushed as flat as a dollar, went spiraling down into the darkness of the canyon floor.

Brinkendorf had gambled and lost.

There was no time for joy, no opportunity for congratulations. Time only for Lan to dive on the controls and snap the *Rotifer* up in a forty-five degree climb toward the sun.

But his boyish grin flashed over his shoulder at them. He was hearing Kessler's grave words come through the awed hush.

"There have been strange things happen in the deeps of the ocean," he told them. "But the strangest of all is how three unarmed men in an inferior ship could defeat a man armed with fire and greed. It almost makes me proud of my helpers—it does at that!"

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Fay was gasping in astonishment, joy, and overwhelming gratitude, fighting a multitude of conflicting emotions. His eyes grew dim and his hand groped for Gorham's.

"This chap you resemble," Gorham was continuing, "was killed eight years ago. He's the same one I spoke of a moment ago. A pirate called the Space Hawk. Good thing he died, eh? Pirates are such unpleasant devils, what?"

"Damn it, Inspector," Fay choked for the words, "you aren't only a great fighter, you're a grand guy!"

Gorham grinned at the bewildered Dana.

"Pay no attention to him, Miss Forester, he's in the habit of mixing things up."

But Slade Fay, after one more grateful glance at Inspector Gorham, turned to Dana and put his arms about her. For the next five minutes he made certain that nothing was mixed up, and that everything was done extremely well.

Which, under the circumstances, was a good thing. For it prevented Fay from hearing the remark made by the round little Martian butterball, Kogo.

"Inspector," said Kogo thumping Gorham on the back and viewing Fay's actions with obvious distaste, "there goes one damn good space pirate, don't you thinking?"

Kogo frowned perplexedly at Gorham's instant roaring laughter, and then turned his sorrowful gaze on Slade Fay—who was still plenty busy. . .

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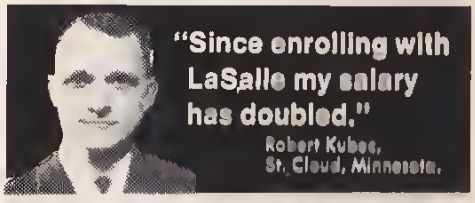

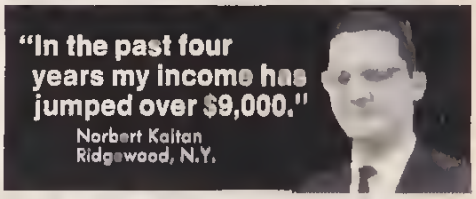

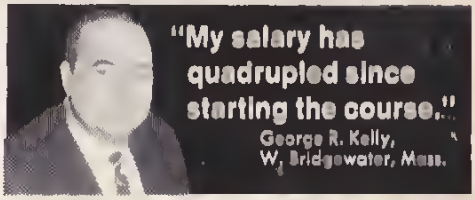

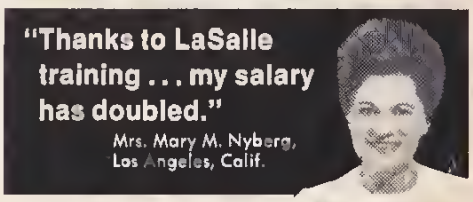

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